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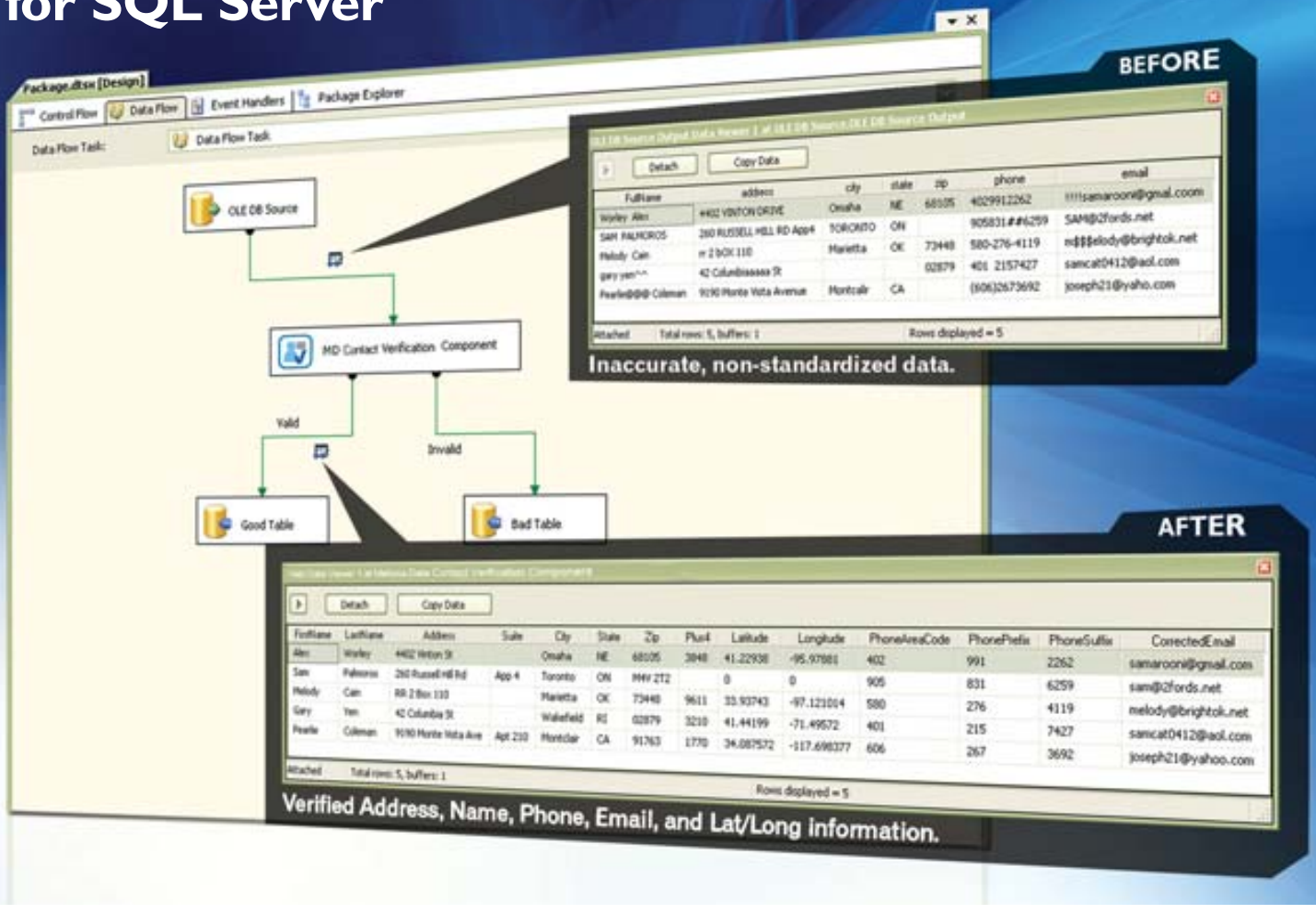

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Contents

ISSUE 279 • JULY 2012

FROM THE EDITORS

11 Letters

13 And the developers shall lead them

13 The judges will save us

NEWS

14 Three takeaways for devs at TechEd

15 Windows Azure cloud platform accepts Linux VMs

15 Microsoft partners weigh in with viewpoints, new solutions at TechEd

16 A/B testing chooses winning strategies

19 BlackBerry 10 coming later this year

20 Mapping different routes for Android and iOS

23 Cloud, mobile development take center stage at Innovate 2012

24 Hadoop 2.0: More than MapReduce

26 Atlassian announces app store

28 Open Data Protocol standards are proposed

31 Virtualization not just for machines

36 GrapeCity acquires ComponentOne

36 Telerik takes first steps toward Windows 8

COLUMNS

69 **CODE WATCH** by Larry O'Brien
C and C++ have competition: Go

71 **ANALYST VIEW** by Mike Gilpin
Transform your software delivery

73 **GUEST VIEW** by Gil Zilberfeld
Don't waste the opportunity of agile

74 **INDUSTRY WATCH** by David Rubinstein
Microsoft on the move

SPECIAL REPORT

Legacy app migration: It's harder than you think

page 47

FEATURES

Development and design converge... but not completely

page 38

Open source in mobile apps: A best practices guide

page 55

The World's Drunkest Programmer... Is he in your office?

page 63

Tales of the BackDoor.Flashback trojan

page 66

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EDITORIAL

EDITOR-IN-CHIEF	David Rubinstein +1-631-421-4158 x105 • drubinstein@bzmedia.com
SENIOR EDITOR	Alex Handy • ahandy@bzmedia.com
ASSOCIATE EDITOR	Suzanne Kattau • skattau@bzmedia.com
COPY EDITOR	Adam LoBelia • alobelia@bzmedia.com
SENIOR ART DIRECTOR	Mara Leonardi
COLUMNIST	Larry O'Brien
CONTRIBUTING WRITERS	Chris Barylick, Alyson Behr, Jennifer deJong Lent, Patrick Hynds, Lisa L. Morgan, Dave Smith, Alexandra Weber Morales
CONTRIBUTING ANALYSTS	Rob Enderle, Mike Gilpin, Mike Gualtieri, Jeffrey Hammond, Al Hilwa
EDITORIAL DIRECTOR	Alan Zeichick +1-650-359-4763 • alan@bzmedia.com

CUSTOMER SERVICE

SUBSCRIPTIONS	+1-847-763-9692 • sdtimes@halldata.com
ADVERTISING TRAFFIC	Sabrina Adler +1-631-421-4158 x125 • sadler@bzmedia.com
LIST SERVICES	Josette Strianese +1-631-421-4158 x112 • jstrianese@bzmedia.com
REPRINTS	Stacy Burris +1-631-421-4158 x108 • sburris@bzmedia.com
ACCOUNTING	Viena Ludewig +1-631-421-4158 x110 • vludewig@bzmedia.com
OTHER QUESTIONS	+1-631-421-4158 x112 • info@bzmedia.com

ADVERTISING SALES

PUBLISHER	David Lyman +1-978-465-2351 • dlyman@bzmedia.com
WASHINGTON, MIDWEST, MID-ATLANTIC, EUROPE	David Lyman +1-978-465-2351 • dlyman@bzmedia.com
WESTERN U.S. WESTERN CANADA, ASIA	Paula F. Miller +1-925-831-3803 • pmiller@bzmedia.com
NORTHEAST U.S. SOUTHEAST U.S. EASTERN CANADA	Jonathan Sawyer +1-603-924-4489 • jsawyer@bzmedia.com
PUBLISHING DIRECTOR	Ted Bahr +1-631-421-4158 x101 • ted@bzmedia.com

BZ Media

PRESIDENT Ted Bahr

EXECUTIVE VICE PRESIDENT Alan Zeichick

BZ MEDIA LLC
7 High Street, Suite 407
Huntington, NY 11743
TEL +1-631-421-4158
FAX +1-631-421-4130
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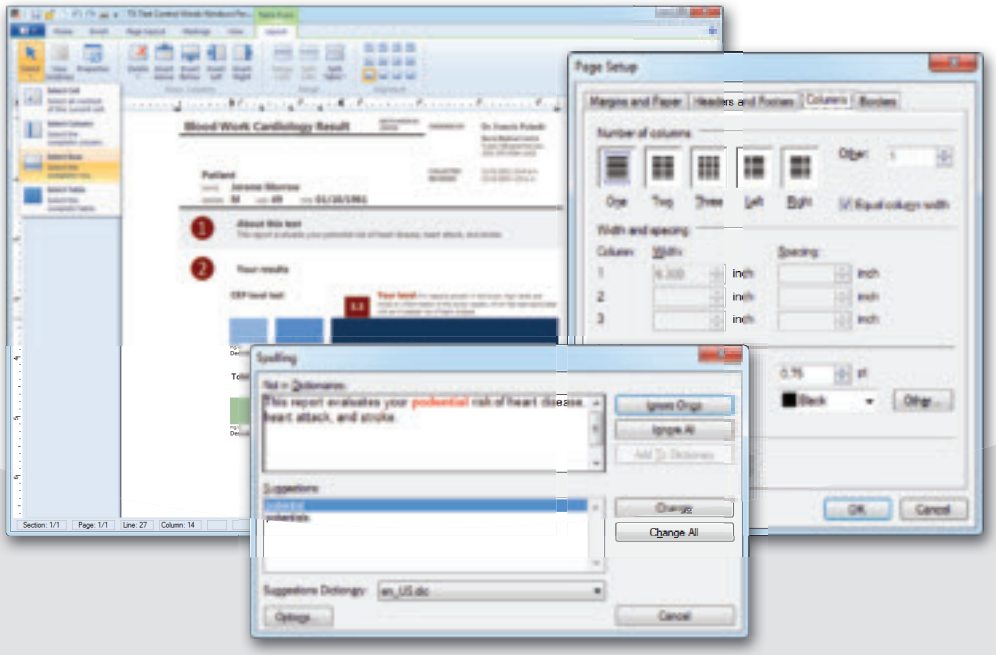

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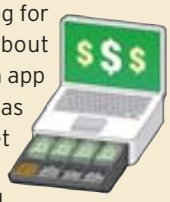

Lisa Morgan's first blog for SDTimes.com is about making your app in an app store as profitable as possible. "Don't get caught up in download numbers and hype. Yes, there's a lot of opportunity but not everyone is going to get an equal slice of the pie," she writes.

But how do you get *any* slice of the pie? Lisa has more details at www.sdtimes.com/blog/2021.

▸ An ode to FileMaker Pro

David Gerrold sings the praises of this productivity tool, now in version 12.

"This iteration of FileMaker Pro is an excellent example of how software developers need to continually reexamine their product and its place in the market. By expanding the usefulness of the program to include iPhones and iPads, the company is acknowledging how much our evolving technology is changing our relationship with information," he says.

More importantly, though, is what FileMaker Pro 12 represents, which he elaborates on in his column. You can find it at sdt.bz/36668.

▸ RIP Ray Bradbury

The loss of one of science fiction's greatest writers hit J.D. Hildebrand hard. "What I appreciate about Bradbury is his commitment to passing along the expertise he gained in a lifetime of writing," he says on his blog. You can read more of J.D.'s tribute at www.sdtimes.com/blog/2022.

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OS/2's already left behind

What is the point of the original article or the response (re: "Zeichick's Take: Abject failure: Lessons from 25 years of IBM's OS/2," sdt.bz/36494)? Everyone knows what happened.

IBM blundered in trying to develop a multitasking operating system on an Intel platform that was incompatible with the 8086 instruction set when running in protected mode forcing a lot of "compatibility" code into OS/2. Microsoft realized the blunder and went along with it because it was in their best interests to do so, meanwhile working on their own multitasking OS for the "fixed," next-generation Intel 80386 chip. Microsoft's effort took a fraction of the code space and a fraction of the development cost. As a result, Windows won and OS/2 lost.

Microsoft has always been very developer-friendly and continues to be. In 2012, this OS/2 story is hardly a relevant story. There are no developers writing commercial code for OS/2 and it has no significant following.

Mike Hader, United States

LightSwitch ain't for Access

LightSwitch will not be sold as a separate product but only included in Visual Studio 11 (re: "Flipping on LightSwitch," May 2012, p. 45). This is not encouraging if the end-user developer is one of the targeted primary users of LightSwitch.

The idea of LightSwitch capturing Access developers seems to be waning. Initially, it was rumored that the Access data file was going to be a data source for LightSwitch. This no longer appears to be in the works. And now that the product will only be available through Visual Studio, it seems to further put this product firmly in the full-fledged developers court.

Steven, United States

What do you think?

Letters to SD Times should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited. Send to feedback@bzmedia.com.

Corrections to the SD Times 100

In the SD Times 100 list for 2012, Rocket Software was misidentified as Aldon Rocket. MuleSoft was misidentified as MuleSource. Xamarin was honored in the Mobile category but was incorrectly listed in the APIs & Integration category.

The SD Times 100 "All-Stars of the Past" only listed honorees through 2011, so the highest designation would be a nine-time all-star. This was changed on the sdtimes.com website to include this year's list. (You can see the story at sdt.bz/36665.) Seapine was incorrectly listed as a 7-time all-star, when it is a 9-time all-star (including 2012).

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FROM THE EDITORS

And the developers shall lead them

Microsoft has always understood that to win a platform war, you must engage the developer community. More than engage: Energize. Empower. Aggressive support for developers, through great tools, outstanding technical guidance and marketing assistance, propelled Windows past OS/2 years ago. It's how Microsoft has remained the desktop leader for so many years.

But the world has changed, and in important new spaces (smartphones, tablets and the cloud), Microsoft clearly is lagging. Not only are consumers voting for non-Microsoft products, but developers are as well.

Take phones. Apple and Google, with iOS and Android, have raced out of the starting gate and left Microsoft plodding. Microsoft will need a game-changer here to make headway, as the number of apps available on the other platforms far exceeds apps available for Windows Phones. But it's more than quantity. Many popular apps simply aren't on Windows Phone 7.5.

Meanwhile, Amazon and Heroku, among others, are off and running into the cloud, with applications written for those platforms already deployed.

Microsoft, of course, has responded. At the recent TechEd conference, high-level executives gave presentations for Windows Azure and Windows Server 12, claiming the two make up what the company is calling "the cloud OS." Windows 8, the new operating system that brings Metro app styling to the desktop and tablet, was demoed on a Samsung device and looked as if it will be competitive in the tablet arena.

(Since then, of course, Microsoft unveiled its own tablet, called Surface, marking the company's move into hardware as well as software. Surprisingly, it didn't make the announcement four days earlier, when more than 10,000 dedicated Microsoft administrators and developers were gathered in Orlando.)

What struck us most about TechEd was the lack of meat for developers, and we're not just talking about the assembly-line lunches. In an interview with Visual Studio honcho Jason Zander after the second-day keynote, we were told that among the biggest takeaways for developers was that LightSwitch, a RAD tool for Web development, now supports HTML5. That's it?

We even got a chuckle from the fellow who walked up to the SD Times booth at TechEd, noticed the June issue of the magazine, and shouted delightedly, "At last! I've found something here for developers."

Microsoft should not lose sight of "who brung 'em" to the big dance. If developers aren't writing applications for the company's phones, tablets, laptops and desktops, there's nothing for end users to use, and whenever possible they will pick up other devices.

The software giant still has an opportunity to compete. The Surface device has generated a good deal of early buzz and even drove the stock price up for a day. But will that displace the iPad?

The Windows Phone situation is murkier. To win against iOS and Android (and, we suppose, BlackBerry 10), Microsoft will need the ISV Army working overtime to create the compelling apps that will power Metro tiles and take advantage of all that back-end cloud connectivity displayed at TechEd.

Finally: Two big unknowns are Windows 8 and Internet Explorer 10. Will developers embrace the new version of Windows? And will they customize their websites for Microsoft's latest browser? Much depends on whether Microsoft can energize them. Based on what we saw in TechEd, we are not optimistic. ▮

The judges will save us

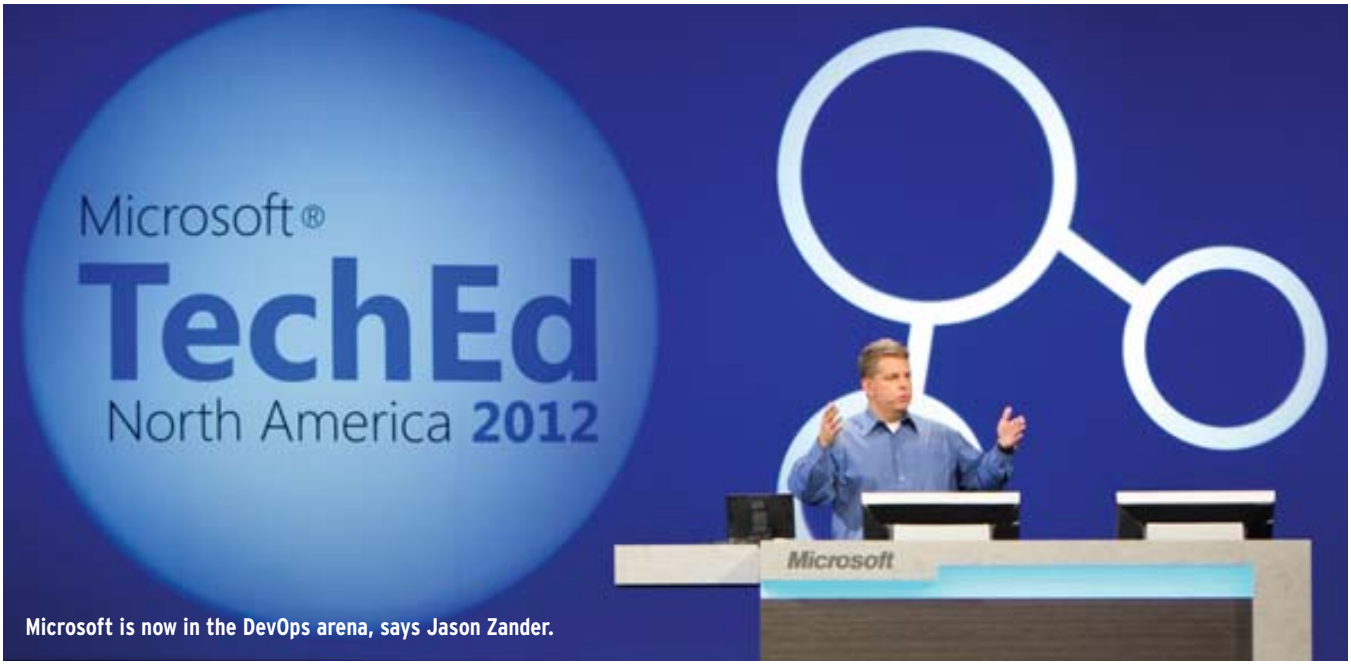
Thank heaven for activist judges. Sure, not everyone loves that term, and in the United States at least, some people downright loathe judges who appear to take the law into their own hands. But we're entirely in favor of at least two activist judges: Richard Posner and William Alsup.

Thanks to their level-headedness, it would appear that two large software patent cases against Google's Android platform are being put to rest. In the Oracle-Google lawsuit, Judge Alsup not only exonerated Google, he structured his jury's ruling in a way that will make it very difficult for Oracle to appeal.

Judge Posner went even further in the Apple-Motorola Mobility case. There, he chided both sides for their claims of damages for patent infringement, and he particularly called out Apple for stretching the definition of its already vague touch-screen interface patents: Apple has a patent on touching a screen, it would seem, and it feels this also entitles it to own the swipe gesture.

Posner wasn't having it, however, and he delayed the actual court case by threatening to dismiss the case with prejudice, which would mean that Apple could never bring the case to court again.

It would seem that the horror of our patent system isn't going to be reformed anytime soon. Software patents do seem like they're not going anywhere, especially with our Congress in a complete deadlock during an election year. But at least with some very smart and activist judges sitting on the bench out here in the U.S. Ninth Circuit Court of Appeals, we could at least see a reduction in cases brought, simply because companies may have to learn that our judges aren't going to take this silliness anymore. ▮



Microsoft is now in the DevOps arena, says Jason Zander.

Photo courtesy of Microsoft

Three takeaways for devs at TechEd

Team Foundation, global service monitoring, HTML5 support in LightSwitch

BY DAVID RUBINSTEIN

ORLANDO — Windows Azure and Windows Server 2012, working together as the cloud OS. Windows 8, the new platform for next-generation application interaction. But what were Microsoft developers supposed to take away from their time here at Microsoft's 20th installment of its TechEd conference?

Three things, according to Jason Zander, corporate vice president for the Visual Studio team in the Developer Division at Microsoft. First, Team Foundation Service is out of preview release, and now anyone can sign up to use it as a development solution.

The second takeaway was a preview of global service monitoring, which will be built into System Center 2012 SP1 to address DevOps. Zander said this will enable assets to be shared between IT and development teams. "Organizations can take the testing assets developers built and hand them to IT to use for monitoring in Azure. It's kind of a heartbeat for the application," he said.

"If something goes wrong, you want to bridge that information back in the other direction. You want the software to build up actionable data."

This brings Microsoft into the DevOps arena, where the ability to deliver new feature sets to applications and get them into the wild more quickly is critical, Zander said.

The final takeaway for developers is the news that support for HTML5 has been built into LightSwitch, Microsoft's rapid application development tool. "We saw a need for developers who were creating these applications, mostly about screens and data, and the intent of LightSwitch was always to give developers the ability to create these apps rapidly," Zander said.

Of course, adding cross-platform capability to LightSwitch raised the question of what that means for Silverlight. "Silverlight still gives deep access to the underlying sensors, and we will continue to support it. That's all been made clear," Zander said.

One area where he said Microsoft is investing time and effort in is targeting jQuery and jQuery Mobile, which was released as version 1.1.0 in April. jQuery Mobile is an HTML5-based platform that has been optimized for touch-screens such as tablets and smartphones. "Expect to see us bring innovation in that space," he said.

Application development for these devices happens in two parts, Zander explained. First, developers will put business logic around data and rules, to run on a back end and be exported via REST and APIs. "The richness is the next piece, to be able to take advantage of the underlying operating system, to write an app to take advantage of the Windows runtime," he said.

The conference opened with a keynote talk that focused on the Windows Azure Platform-as-a-Service with Satya Nadella, president of the Server and Tools business at Microsoft, who said that developers today have to build applications that assume infrastructure failure could happen. "We need to teach developers to build applications that are resilient," he said, "and how to write applications to achieve portability and scalability."

He said Microsoft is building patterns, practices and guidance "right into our tool set" for continuous availability for services. ▮

Windows Azure now takes on Linux virtual machines

Microsoft shows flexibility to organizations' needs

BY DAVID RUBINSTEIN

Microsoft on June 7 announced changes to its Windows Azure cloud platform that opens it up to Linux, and introduces Azure Web Sites for the quick creation and low-cost deployment of Web applications.

The new services bring the ability to run Linux virtual machines in Azure as well as support for virtual machine persistence, which allows changes to the VM image to be maintained after reboots. These add a level of Infrastructure-as-a-Service that will enable Microsoft to better compete with the likes of Amazon EC2 for cloud share, according to Wade Wegner, former lead technical evangelist for Windows Azure at Microsoft, now CTO at systems integrator Aditi Technologies.

"Opening Azure up to run Linux in a different stack is a realization that people run these technologies, and [Microsoft] doesn't want that to prevent them from running Azure," he said.

OpenLogic introduced CentOS and service-level agreement support via the new Windows Azure Gallery. For now, other Linux distributions that will reportedly run on Azure include versions of OpenSUSE, SUSE Enterprise Linux and Ubuntu. "This will help companies who have made strategic bets on Microsoft but have other systems," Wegner said.

Azure Web Sites is built from Microsoft's application hosting platform that was codenamed Antares, and supports non-Microsoft technologies such as MySQL, Node.js and PHP, as well as its own .NET. "Microsoft wants to make it easy to build apps and deploy them where you want," explained Wegner.

Microsoft's vision still is about Platform-as-a-Service, he noted, but added the infrastructure services provide necessary steps to get there. It also provides for hybrid clouds, which enable more than running applications in the cloud or on-premise.

With the new Windows Azure Virtual Networking service, Wegner said, developers "can build stateless Web apps and take advantage of the cloud's extreme scalability, and can connect back to the infrastructure that could be running on-premise or in Windows Azure."

He gave the example of an organization that wants a website that scales over the cloud, but also wants to run MongoDB or SQL Server 2010. "That can be connected as a solution that can be put in a vNet and live on the same subnet, which opens up communication to other corporate networks. That's pretty compelling capability," he said.

This, Wegner pointed out, makes the IT pro much more relevant with Windows Azure. "Most developers don't have experience with vNets and subnets. Now, they will require the services of IT." ▮

Partners weigh in with viewpoints, new solutions

BY DAVID RUBINSTEIN

ORLANDO — While Microsoft was showing off its stuff at last month's TechEd conference, a number of the company's partners were doing the same.

"A mobile phone is the only computer most people in the world will ever know, and that will fundamentally change software development," said Joseph Hill, COO of Xamarin, keeper of the Mono open-source platform project. "Mobile opens a new world of possibilities. Hardware providers are continually differentiating their hardware and have no incentive for standards. It's how they offer something unique. But HTML can never tap into the richness of each device."

Hill said Xamarin is working on the next version of its mobile API set, due out this summer with support for Apple's new iOS 6, along with enhancements to Mono for Android and MonoTouch.

DevExpress CMO Dave Mendlen offered that in the world of component development, "nothing has changed in years. It's staggering. It's not about piecemeal parts and individual components any longer. It's about creating beautiful solutions. We see an opportunity to simplify things and give developers the ability to build beautiful apps by default."

DXperience 12.1, the latest version of the company's suite of software tools, gets developers away from dropping components onto forms, and instead offers templates that are populated with the correct assemblies and controls to create applications inspired by Word, or Outlook, for example. "You get a blank application, not a blank form," said DevExpress CTO Julian Bucknall.

The 12.1 release includes an ASP.NET project wizard for iPad apps, prepopulated with an iOS theme; a new docking control for ASP.NET that allows easy moving and locking of elements on a page; and improved code detection and consolidation that makes code cleaner and easier to test and detect bugs in.

UI design company Infragistics announced new iOS and native Objective-C controls in its NetAdvantage for iOS tool (now in beta), and a client-side jQuery motion framework for smooth animations, used for data visualization. The company also displayed its NetAdvantage for SharePoint tool that replaces a list with a Custom Grid Web Part that enables grouping for hierarchical data, offers inline editing, and is available at US$7,495 with 100% priority support and access to all Infragistics Web Parts for up to 1,000 users.

Another component provider, Telerik, pulled back just the corners of a shroud over its latest release: Icenium, a framework for creating cross-platform mobile applications. A more complete announcement is expected soon. ▮

A/B testing chooses winning strategies

Web applications get SaaS options for user preference testing

BY ALEX HANDY

Continuous integration isn't only pushing developers to release more often, it's enabling them to use A/B testing more effectively. Companies like Omniture, SitesSpect and Webtrends have all pushed out A/B testing software to help developers make better choices. And that's the promise of A/B testing: no more guesswork.

What exactly is A/B testing, and how can it be used in software? Simply put, it's the act of putting percentages for use on digital assets. In Farmville, for example, an A/B test could be set up to see how many users purchase an in-game pig when it is offered to them, versus how many purchase an in-game cow. A/B testing software would push out either a pig or a cow to Farmville players based on their profiles, or just based on a 50/50 chance, as determined by the developers.

Bob Garcia, optimization solution sales director for North America at Webtrends, has been working in the A/B and multivariable test market for many years now, and he said that proper use of such tests can have a dramatic impact on the bottom line.

He told the story of a recent test consulting engagement Webtrends had with a major motorcycle retailer. "We worked with them on tests for their checkout process. They started with little tests in their existing site, like changing button location, the size of the text, and adding content. They did this incrementally. Some of the tests didn't derive statistical differences, but then they went and built an entirely separate, parallel checkout process. When they did that, they saw an improvement, which has translated into US$2.5 million in extra revenue by reducing abandonment rates. That's a great use case where A/B testing is really most useful, in testing really big concepts."

Thus, most of the work in A/B testing is designing the alternative layouts and deciding what to test. Garcia said A/B testing is much more effective on large changes rather than simple ones like button relocation and text adjustments.

Testing a new market

Hugh Reynolds, CEO and founder of Swrve New Media, is expecting A/B testing to be the new market for middleware. He was a cofounder of gaming physics middleware company Havok, and with his new company, he's offering SaaS middleware for the Facebook game crowd.

For Swrve New Media, that aforementioned pig can be just about anything. Reynolds said his team has been focusing on expanding the capabilities of Swrve New Media so that it can now handle A/B testing duties within subsets of users, rather than simply spraying tests across an entire user base.

Reynolds said Swrve New Media is the perfect tool for project managers because they can tweak application performance without introducing bugs, requiring redeploys, or even requiring a developer or IT assistant. "We're great for product managers who want to adjust things," he said. "If the product guy comes in and says, 'We want to run a test and see if we should give people 1,000 starting coins or 500 starting coins,' the dev team is going to say 'No way!' "

But Swrve New Media allows such substitutions to be performed quickly from a Web interface. Developers add tags into their code where A/B tests can be performed, and the Swrve New Media interface allows for a simple point-and-click substitution on the

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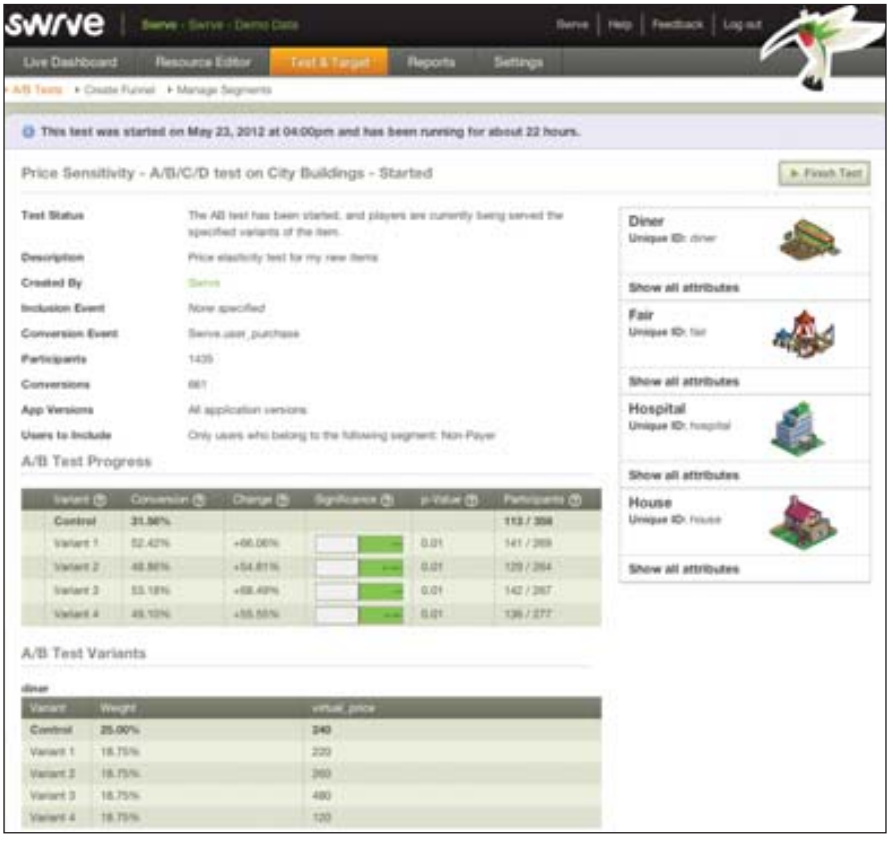

A/B testing can give hard numbers on digital assets and how users interact with them.

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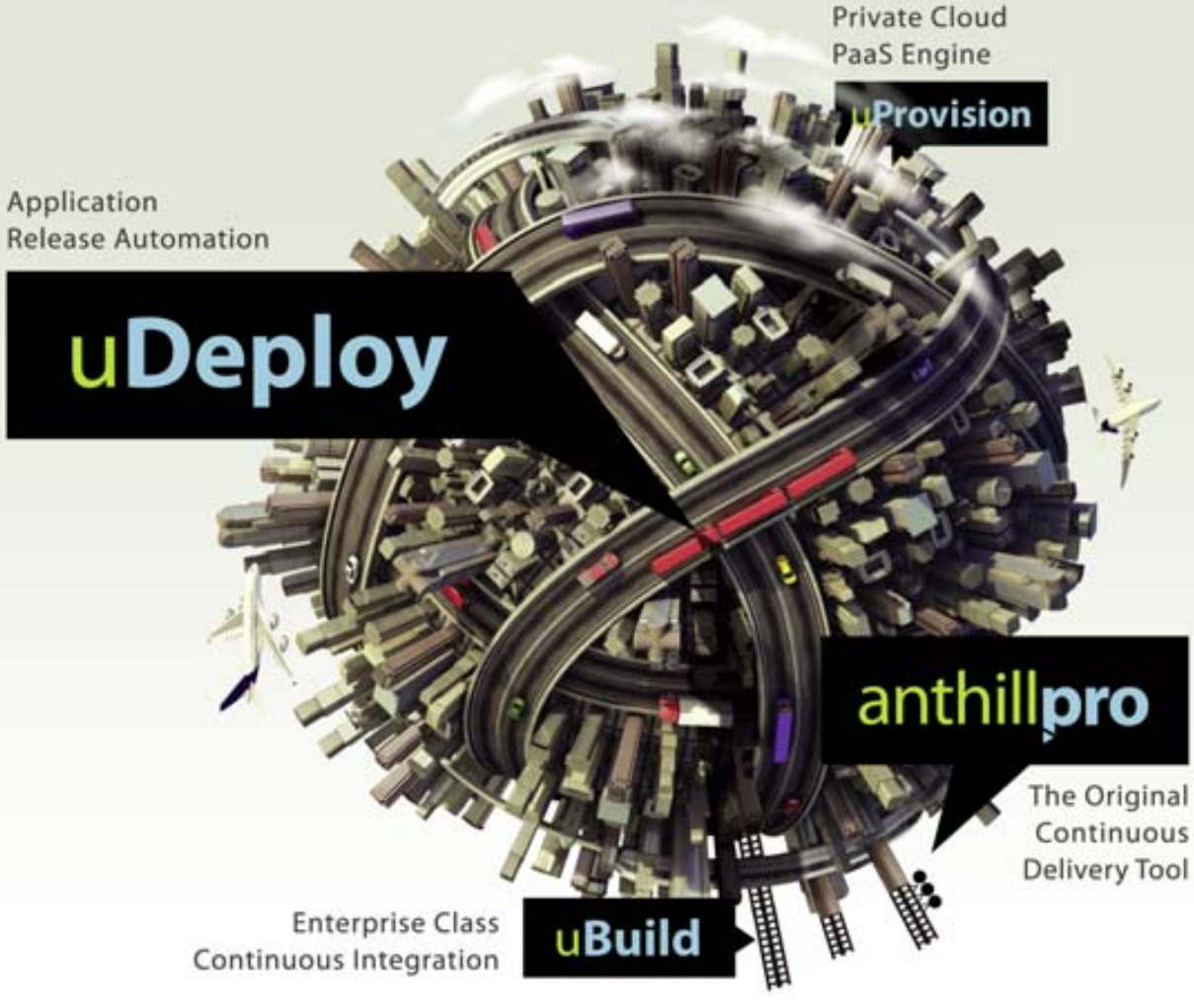

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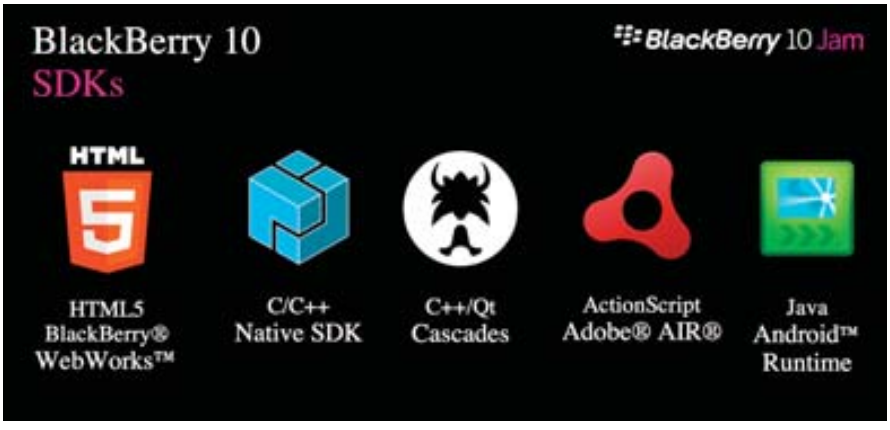
BlackBerry 10 coming later this year

Company offers new SDKs, tips on building apps for next version of OS

BY SUZANNE KATTAU

NEW YORK – Research in Motion is invested in the BlackBerry 10, and it came to Manhattan's Millennium Hotel as part of the BlackBerry 10 Jam World Tour to show off five beta SDKs, and to instruct developers on creating applications for app-starved BlackBerry users. The BlackBerry 10 device will be released later this year, RIM executives told SD Times at the event.

Keynote speaker Martyn Mallick, vice president of global alliances and business development at RIM, spoke about how the company has built out its developer support via its website, blogs, forums, tutorials and samples—all designed to make BlackBerry apps easier to build. Gary Klassen, principal architect at RIM, also spoke about the BlackBerry 10's improved UI and keyboard design, and the better user experience it offers.



RIM has made five SDKs available for developers creating BlackBerry 10 apps.

Patrick Mollins, developer evangelist at RIM, later discussed the important takeaways. "With the announcement of BlackBerry 10, we have also released five SDKs that are in beta at the moment for developers to use. They can download them for free, easily, from our developer site at developer.blackberry.com. We'd like to see developers get on board and start developing for the new platform," he said.

Mollins went on to describe the five SDKs. "The first one is WebWorks—our HTML5 SDK—and the second one is our native C/C++ SDK," he said. "Our third one is a new platform that we're introducing this year, along with BlackBerry 10, called Cascades. Cascades is an SDK that sits on top of our native SDK that allows developers to create rich, compelling and engaging applications that are targeted for BlackBerry 10.

"The fourth SDK that we're offering developers is an Android SDK that allows Android developers to take their application, run them through our tooling, and out comes a BlackBerry tablet OS or BlackBerry 10-specific application. This allows Android developers to find a new home for their applications."

Mollins said the fifth SDK is an Adobe AIR SDK. "Adobe has been a longstanding partner with RIM. We've worked well with them over the last few years to bring out what was our initial developer toolkit for the PlayBook and we're continuing support for that today," he said. "Our Adobe AIR SDK gives Flash and Flex developers a real solid base for mobile development."

Mollins also mentioned that any apps that developers make for PlayBook today will be forward-compatible with the toolkits for PlayBook 2.0. In other words, when BlackBerry 10 comes out, the work they have put in won't be wasted.

Reaction from the floor

There were approximately 250 attendees at the event. Some developers in attendance had never developed for BlackBerry before and wanted be among the first to learn to develop for BlackBerry 10. Other developers at the event have developed for BlackBerry before and plan to keep doing so.

"I have developed for the BlackBerry platform before, just having completed an app called the NYC Restaurant Scrutinizer," said Michael Boski, senior Flash developer at Pictela. "I think the BlackBerry PlayBook, for example, is a great device that, with its much more open system, makes me want to continue to develop for BlackBerry."

Attendees chose from 12 instructional sessions in three different tracks to learn about how to develop for BlackBerry 10. The three tracks were for native, Web and enterprise development, each consisting of four sessions.

"I attended four of the developer sessions," said Boski. "One of the things I learned was how easy and flexible it is to use BlackBerry WebWorks to create an app in the BlackBerry app store."

Just as RIM has and will do at other cities, it gave away a limited number of BlackBerry 10 Dev Alpha devices at New York's event for developers who qualified. The device is a prototype created for the purpose of testing BlackBerry 10 apps during development. The device is not a BlackBerry 10 smartphone for end users, nor does it run the final BlackBerry 10 software. It has been created just for developers to help them prepare for the launch of the upcoming BlackBerry 10 platform.

New York City was the seventh stop on the 12-week, 23-city BlackBerry 10 Jam World Tour. Upcoming cities include (in chronological order) Toronto, Moscow, Berlin, Bangalore, Warsaw, Delhi, Beijing, Singapore, Jakarta, Dubai, Montreal, Sydney, Cape Town, Buenos Aires, Mexico City, and Sao Paulo. For more details on the tour, visit www.blackberryjamworldtour.com. ■

Mapping different routes for Android and iOS

BY SUZANNE KATTAU

The success of Android and iOS in part depends upon innovation by third-party mobile app developers, and some would argue that Android has taken a beating as a result.

So, in a competitive strike against Google, Apple announced at its Worldwide Developer Conference (WWDC) in June that it is dropping Google Maps from iOS 6 this fall in favor of its own mapping services. Amsterdam-based navigation-system maker TomTom has signed a global agreement with Apple for developing maps and related information.

iOS 6's Maps app will give you turn-by-turn spoken directions and the Flyover feature which will let you zoom, pan, tilt and rotate around photo-realistic, interactive 3D views of cities.

By launching its own mapping service and leaving behind Google Maps, Apple is "moving away from any type of relationship with Google," said Kenneth Wisnefski, founder and CEO of WebiMax, which specializes in online, social and mobile marketing. "It signals that they have started to clearly define each other more as competitors whereas before they could be viewed as complementary."

Apple dropping Google Maps from iOS 6 will be of concern to some Android app developers. "For many Android developers who also target iOS (which sees the majority of the most popular apps), this might have an effect because the map services may now vary across devices," said IDC analyst and program director Al Hilwa. "However, not all apps use maps, and so this is of limited effect."

WebiMax's Kenneth Wisnefski says that Apple is increasing its competition against Google.

Forrester Research analyst Charles Golvin said the news of Apple dropping Google Maps from iOS 6 could influence Android app developers to begin developing for iOS. "The new Maps interfaces from Apple may provide additional incentive for them to develop for iOS as Apple looks to create a new revenue stream from those APIs," he said.

Cross-platform will go on

While dropping Google Maps is strategically significant for Apple, mobile industry analysts say developers will continue to develop cross-platform apps that support both Android and iOS, albeit more often for iOS. Even though it takes some extra energy, developers will continue to develop cross-platform because doing so maximizes their app sales, plus app availability and quality is what consumers look at when choosing their phones.

"The perceived availability of a large, steady stream of high-quality apps is a key reason for consumers to initially choose an Android or iOS device, and then to remain loyal," said Peter Farago, VP of Marketing at Flurry, a mobile app measurement platform.

"I think from an applications standpoint, the understanding's always been there that Apple is the leader in that area," said Wisnefski. "Now it's just going to become even more clearly defined over time that there's going to be differences in developing for different platforms because they're going to start to look less and less alike."

Historically, app developers have favored iOS over Android for several reasons. "Apple was the first, so they have had a head start. Right now the iPad is the major platform relative to Android just due to its overall appeal," said Gerry Purdy, mobile and wireless expert and principal at Mobiletrax.

Purdy doesn't think the news of Apple dropping Google Maps from iOS 6 will surprise most Android app developers because "Everyone's been expecting it for some time. It's just something with which they need to accept and deal."

But it's not all doom and gloom for Android. There are several things that Google can do to increase Android support from app developers, according to Aaron Hillegass, app developer and president of training and consulting company Big Nerd Ranch. Four of them are as follows:

"First, Android needs to continue to evolve. Today, developing for iOS is significantly more efficient than developing for Android. We've developed both Android and iOS versions of several apps. Typically, the Android version takes twice as long to write."

And when a new version of Android ships, Hillegass said that every phone manufacturer should do what they can to keep their existing customers updated. "Many Android users are dissatis-

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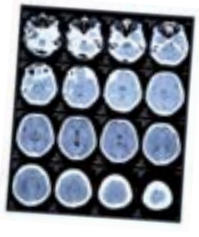

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Cloud, mobile development take center stage at Innovate 2012

Software updates and a new security solution were main attractions

BY SUZANNE KATTAU

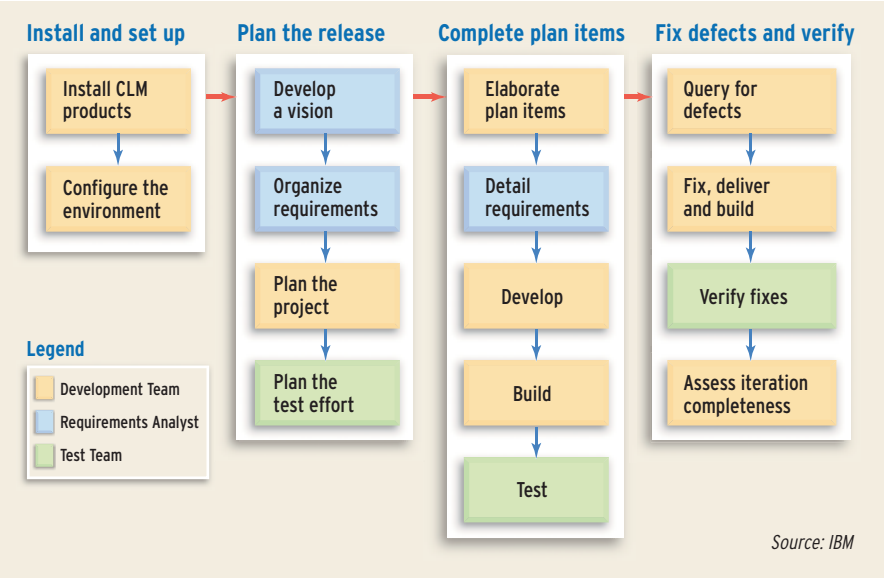
IBM's new collaborative software development and security solutions for cloud and mobile technologies were among the items attendees were exposed at IBM's Innovate 2012 event, which took place in June at Walt Disney World's Swan and Dolphin Resort in Orlando.

At the show, IBM announced a new version of its integrated software Collaborative Lifecycle Management (CLM) solution that has extended design management capabilities for cloud delivery, development and operations. IBM's CLM solution is built on the company's Jazz open development platform, and it brings together IBM Rational Requirements Composer, IBM Rational Team Concert, and IBM Rational Quality Manager in one easy-to-install and easy-to-use solution.

The new CLM software, according to a company statement, ensures that software design is integrated with the rest of the software application development life cycle. Ashok Reddy, director of offering strategy and delivery at IBM Rational, said that the IBM Rational CLM software will be made available as a service.

"One of the things we announced...is that we're going to offer this software as a service on a per-user, per-month basis later this year," he said in an interview with SD Times. "We didn't have this Software-as-a-Service model before. Customers who had wanted to use our offerings on the cloud had to purchase the software as usual and use it on the cloud. Now they can actually purchase it as part of the Software-as-a-Service offering from IBM."

IBM's Ashok Reddy says that IBM Rational CLM will be available as a service.



The CLM scenario shows how a team can use requirements management, change and configuration management, and quality management applications to develop a product.

IBM also announced its offering for continuous software delivery in the cloud, which targets agile development teams. According to a company statement, agile developers can now "access the cloud-based trial (beta), powered by IBM SmartCloud Application Services. With minimal management, they can quickly develop and test applications in a secure cloud environment." Developers can also download the Virtual Pattern Kit for Developers to leverage or extend IBM patterns locally on their own system.

IBM then announced a new version of its IBM Security AppScan software that can help organizations develop mobile applications that are more secure by design, according to a statement. As companies embrace the growing Bring Your Own Device trend (where employees' personal devices are granted access to company materials), the need to secure the applications that run on these devices is becoming more critical. By using this software, the statement said, developers can build security into the initial design of mobile applications so that vulnerabilities will be detected early in the development process.

The new version of IBM Security AppScan will be available this quarter.

IBM Innovate 2012 event featured approximately 400 technical sessions in 27 tracks, including streams that showcased a variety of disciplines and solutions for application life-cycle management; design, development, test and deployment; embedded systems and software; portfolio management and enterprise architecture; security; and smarter computing with enterprise modernization. ■

Hadoop 2.0: More than MapReduce

Platform moving to more general data processing in upcoming release

BY ALEX HANDY

SAN JOSE — Two years ago, the Hadoop Summit in Santa Clara was sponsored by seven companies, one of which had only two employees: its founders. The conference was so talk-heavy that an expo hall was out of the question. In June, the conference's new home in San Jose hosted a hair under 50 sponsor companies.

Heavyweights such as Cisco, Dell, Microsoft and NetApp have all sidled up to the Hadoop bar to have a drink from the flow of demand that seems to be spilling into the marketplace. The two-person company from 2010 was called Datameer, and today it's employing around 30 people and offering version 2.0 of its Excel-like interface for constructing Hadoop data-mining endeavors.

All of this growth in the industry around Hadoop is mirrored in the Apache Software Foundation, which recently announced that it had experienced unprecedented expansion and graduation of Incubator projects. Powered by the fast evolution and frequent creation of Apache projects to supplement Hadoop, the foundation now has more than 100 active top-level projects for the first time.

Indeed, an Apache Software Foundation announcement noted Big Data projects around Hadoop as a primary reason for the growth in participation, sponsorships and overall projects in 2011. The announcement cited an IDC report that predicted a 60% growth in the size of the Hadoop market annually.

Alpha at Apache

In January, Hadoop 1.0 was released. About a month ago, the first alpha release of Hadoop 2.0 was placed in the Apache repositories. Arun Murthy, founder and architect of Hortonworks, told Summit attendees what they could expect from this forthcoming rewrite of much of the Hadoop platform. (Hortonworks is the former Yahoo Hadoop group, which was spun out into its own company last year. Hortonworks is charged with maintaining, supporting and advancing vanilla Apache Hadoop.)

The biggest change in 2.0 is the refocusing of the Hadoop project into a general data-processing platform, rather than a dedicated MapReduce system. Murthy said that this change has required a complete re-architecting of how Hadoop works on the server-side, but he added that the underlying APIs and MapReduce use cases should remain largely unchanged for those already familiar with them.

What will be a major change, however, is that the MapReduce portions of Hadoop are being refined into a user-side library. That means the actual MapReduce implementation used on a Hadoop cluster can now be changed, and indeed, multiple implementations and batch jobs will be able to be run at the same time.

Murthy said that Hadoop 1.0 uses two trackers: a JobTracker and a TaskTracker. The JobTracker is currently responsible for most of the work inside the cluster: resource management, job scheduling and resource reclamation. The TaskTracker is sent down to each node and used locally to manage a specific task inside a job.

The new architecture in Hadoop 2.0 will feature two new concepts that will be essential in understanding the new types of trackers. First, applications will be the new name for generic bags of tasks or whole jobs. Second, the concept of containers is being introduced, which will allow for the allocation of cluster resources in a more partitioned, controllable fashion.

Container allocation will be handled by the new ResourceManager, and actual job management will now be handled by the Application Manager, essentially, said Murthy, splitting Hadoop's current JobTracker into two parts. Together with the newly revamped TaskTracker on each node, this new triumvirate forms YARN, the new jobs management and scheduling system at the core of Hadoop 2.0.

This is central to the future of the platform, said Murthy: Data can remain in a Hadoop cluster and Hadoop systems can remain in control of that cluster, but developers will now be able to perform any batch data operation on said data, not just MapReduce.

All these changes are yielding massive performance increases, said Murthy. The Hadoop 2.0 branch includes over three years of changes that the Apache, Hortonworks and Yahoo teams have been crafting. HDFS will soon receive high-availability mode in the 2.0 branch, allowing Hadoop's much maligned file system to serve as a core, highly available network asset.

Currently, Hadoop tops out at around 4,000 nodes on a cluster. Murthy said that the new architecture in 2.0 will enable clusters to scale up to 10,000 nodes. He also said that 2.0 is prepared for larger node sizes, thanks to the need to keep up with Moore's law.

Markets aplenty

There were dozens of companies represented on the Hadoop Summit show floor. The aforementioned Datameer

continued on page 35 ▸

Hadoop 2.0

An alpha version of Hadoop 2.0 was released in late May. For those looking to the future, Hadoop 2.0 will include:

- MapReduce 2.0, known as YARN.
- YARN will be available as a client-side library.
- Generic job scheduling engine will replace MapReduce as primary job scheduler.
- HDFS receives high-availability support.
- HDFS will also receive failover and stability adjustments.
- Hadoop 2.0 adds applications, and allows for shared simultaneous cluster usage.
- New ResourceManager will handle job and cluster management and reclamation.
- New Shuffle algorithm in MapReduce.

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Atlassian announces app store

JIRA maker puts focus on selling collaboration tools and add-ons

BY ALEX HANDY

App stores have become commonplace in the software industry, but not as far as the software development life cycle is concerned. To change this, Atlassian, at its annual self-titled Summit in San Francisco in May, opened the doors to its new marketplace, where developers can access development process and collaboration tools to improve their agility.

Atlassian turned in its first hundred-million-dollar revenue year in 2011, an impressive feat for a company that was once considered an upstart by then-heavyweights Borland and HP. The company has attracted big-time investors from Accel Partners, and last fall it moved into a swanky new SOMA (the hot startup district South of Market Street) office in downtown San Francisco, complete with all the beanbag chairs, free sodas and granola bars you'd expect from a hip software company.

'Not only does Atlassian have a community, they've let them know intimately what Atlassian is up to, which allows people to figure out what holes they can fill with a plug-in.'

— Tom Grant, Forrester Research

At the Atlassian event, third-party software and collaboration tool vendors demonstrated their products in the new marketplace. Indeed, on its launch day, the Confluence enhancement suite Zen Foundation was trumpeting a day-one site license sale to Walgreens, without any actual meetings between the pharmacy chain and the software vendor. This, claimed Atlassian cofounder and CEO Mike Cannon-Brookes, is the power of his company's new business model for enterprise software sales: It's about the quality of the tools, not the quality of the sales engagements, the lead generation or the giveaways.

Atlassian's business model competes with open-source and free software tools, not with large enterprise software packages that cost six figures. "Our tools have to compete with free," said Cannon-Brookes. "We have a customer base of people who've said, 'I care about my tools.' It's strange more companies don't say that."

Thus, he said, it's been a rough process for some of its initial marketplace vendors to meet their requirements. "Some [vendors] are a little upset, but we kept knocking them back, saying 'This is not good enough yet.' We run our QA guys over it, and we're careful because everything in there has our brand on it, too."

But for third-party vendors betting their future on the Atlassian platforms, Tom Grant, senior analyst at Forrester Research, said there's another appeal: Atlassian's radical transparency.

"You can tell exactly what [Atlassian is] doing and what new features they're working on, down to the level of the engineer working on it, and what else is on that person's to do list," he said. "I think not only do they have a community, they've let them know intimately what Atlassian is up to, which allows people to figure out what they're doing and what holes they can fill with a plug-in."

That means a company building a product on the Atlassian platforms won't be surprised by a mainline product that usurps their capabilities, at least from the people who control the platform.

The Atlassian Marketplace also includes some enterprise-focused services and features that he said will help expand the company's reach into the largest of development shops. Specifically, Marketplace purchases can be license-synchronized, so that only one purchase order per year is required to pay for Marketplace purchases. The alternative would be that each department purchaser would have to get a separate purchase order and check written up for each new plug-in the team wants to buy.

But just how will anyone make money on the Atlassian app store, when statistics tell us that the Top 10 applications in the iPhone or Android app stores are earning all the money? "The difference is, we're not going to have a million applications," said Cannon-Brookes. "Secondly, we've tried to make as many different ways of discovering applications. We tried to make the categories really intelligent, and based them on business function."

Picking up on JIRA

As such, the growth of JIRA and Confluence since the founding of Atlassian in 2002 has come from the budget-friendly price and user-friendly focus. It's spawned a vibrant ecosystem of users who've put the issue-tracking and wiki software to various uses, or expanded these platforms to include more of the software development life cycle.

In March, Atlassian released version 5.0 of JIRA, which opened up every data point in the issue tracker to the outside world via a RESTful API. This has been quickly utilized by third parties, some of which are even basing their futures on Atlassian's platform.

In fact, two test management com-

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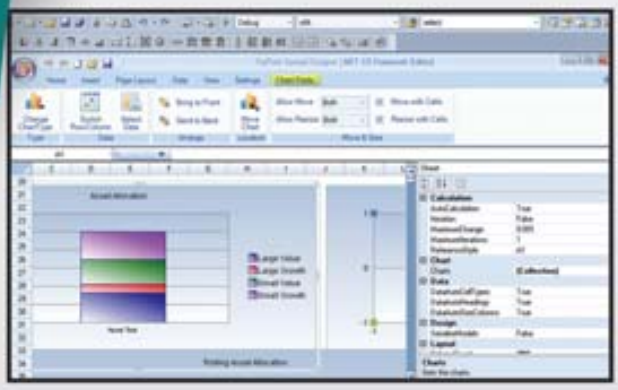

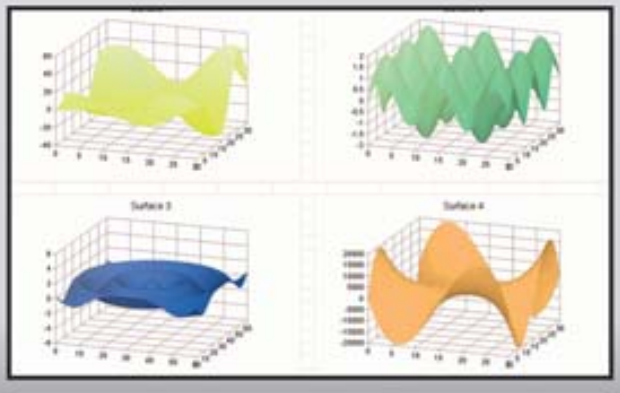

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Open Data Protocol standards are proposed

Consortium is working on method for exposing data via browsers or machines

BY DAVID RUBINSTEIN

A new OASIS committee to advance the Open Data Protocol as a standard has been proposed by a number of leading high-tech companies, including Citrix, IBM, Microsoft, WSO2 and others.

The OData protocol is built on HTTP, JSON and AtomPub, and is used to help developers build cross-platform applications that can access and exchange data. It exists in both an HTML version and a JSON version.

AtomPub is based on Atom, which was originally created as an alternative to RSS, according to WSO2 CTO Paul Fremantle. AtomPub is the extension of Atom that allows you to not only read blogs and data, but write them as well. Now, with AtomPub, one can write all kinds of data to a server, he explained.

OData offers "a common, simple, RESTful, JSON format to open up data" on the Web, he said, noting that many tech-savvy cities, as well as Facebook and Netflix, expose data via an OData service. It allows interaction for people via a browser, and for application calling via an API.

"You can subscribe to changes, for example, and other things fit the dual [human or machine] usage," added Fremantle. "OData fills a niche of more general data access, but with enough schema and metadata to make it very useful. I see it almost like SQL for the Web."

Microsoft has created a tool called OData Explorer that can be pointed at any OData source, list the public data within, and then give access to the columns and rows of that data source, Fremantle said.

Microsoft will contribute seven OData specification components that are currently under the Microsoft Open Specification Promise to the OASIS technical committee. "To accomplish the goal of open data for the open Web, we have seen a push for support to enable access to and use of data across platforms, applications and devices," said Jean Paoli, Microsoft Open Technologies president, in a statement announcing the committee. "Taking steps to standardize OData through OASIS allows developers to act on the data in a more well-defined way."

OData already is being used in Android, DB2, Drupal, Informix, iOS, Java, Joomla, MySQL, Node.js, Microsoft .NET, PHP, SQL Server and Windows Phone 7, according to the announcement. ▮

Atlassian announces app store, JIRA update

◂ continued from page 26

panies, QMetry and Zephyr, have dived whole hog into the JIRA platform to fill what they've both identified as a gap in the Atlassian world's life cycle.

"JIRA was taking the shape of a platform," said Samir Shah, CEO of Zephyr. "The ecosystem around their plug-ins was expanding because it was great for building little doodads that were plug-ins to the main product. What we saw missing in the Atlassian product line was core testing that needed to happen in a structured way, while they have all the pieces in place to dream it, design it, build it, ship it."

Shah said he saw demand in the marketplace for test management solutions inside the JIRA platform. For the "build it" part, there are a slew of development tools that create ways to manage the entire development process, to get requirements, and to move things along. "What ended up happening with our customers, when it came time to do testing, they'd step out of JIRA, record their tests, and come back to JIRA," he said. "For large enterprises, for companies that had JIRA, it was essentially a lot of people saying 'Why should we even have jumped out of JIRA?' "

Shah then pushed his board and team to focus exclusively on JIRA as its platform of deployment and use. He said that, so far, this decision has been lucrative and allowed the company to continue growing.

QMetry has followed much the same path. The company offers its own take on Web-based test management, and Michael Wellborn, business development manager at QMetry, said this year's sales targets are well over double the targets for 2011. The recent addition of RESTful item targeting in JIRA allowed QMetry to integrate even further into the issue-tracking system, and to tie test failures and successes to individual bugs.

Of course, there are many gaps that are filled by other JIRA-related tools, both from Atlassian and from third parties. There is burn-down chart plotting from GreenHopper, and Visio-like functionality of Creately.

Software vendors aren't the only ones hanging their futures on Atlassian's rising star. Howard Tiersky, president of contract application development firm Moving Interactive, said that his teams open up JIRA and Confluence to the teams that contract their work. This allows their customers to have direct access to requirements and issues, and even gives them the ability to take a picture of the interface and visually describe a change, all within Atlassian's ecosystem.

Tiersky said that opening his company's issue tracker and wiki to clients has allowed them to "become part of our agile process. Clients would go, 'Holy cow! This is much better! Can you help us become more like you?' As a result, we've become kind of a consultant to our clients as to how to improve their agile practices." ▮

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Virtualization not just for machines

Multi-tiered applications can behave as if they're in the physical network

BY ALEX HANDY

Virtualization quickly went from buzzword to standard tool for developer and ops staff alike. Its cousin, the virtualized network, has taken a little longer to come of age and become popular. But now that cloud hosting has become commonplace, virtualizing the network connections between cloud-hosted servers has become a fashionable way to speed up performance and increase security.

Vyatta, for all intents and purposes, created the network virtualization market single-handedly, starting in 2006. Kelly Herrell, CEO of Vyatta, said that his company focused on layer 2 and 3 networking, rather than sitting higher on the transaction layer totem pole. He said this was the secret to Vyatta's success.

"Nobody tried to come at this layer 3 networking problem before," he said. "The only way you did this was with proprietary Cisco routers. We had a lot to prove, and our community helped us prove that thanks to our free download. Layer 3 is a very important thing, so layer 2 and 3 are the network. Layers 4 through 7 make the network better, and they're where you'll do load balancing, WAN optimization and firewalling, but layer 2 and 3 are your fundamental networking layers.

"Cisco had 90% market-share when we started, and they got that through proprietary protocols. The Internet has removed that need, so you can start to use a vendor of heterogeneous networks. That was the beginnings of a long decline toward standardization."

Vyatta's product, at the start, was a Linux distribution that, essentially, is a router. The company's software includes all the complex capabilities an expensive router contains: load balancing, firewalling, WAN optimization, NAT, DHCP server, and a host of other network-focused services that allow developers and ops people to configure and deploy Vyatta-based routers into any cloud environment. The company has since expanded and refined its product line.

Vyatta allows admins to manage virtual networks as if they were VMs across a data center.

"One of the things we see as the core factor for adoption is literally the application storm that's going on," said Herrell. "Looking back on it, it's probably driven by the fact that people have fairly unfettered access to software development tools. Not too long ago it was negotiations, receipts and purchases, but now you just download things online. There's a storm of application deployment going on. From an IT side, they're responsible for getting the gear to run, and creating large generic pools of virtualized compute to put the applications on."

Herrell said that in many sales meetings, the room will be packed with software developers and IT administrators. After a demonstration of the product, he said the IT folk will often look at the software development people and say, "If we use this, then you can do all those things I won't let you do."

The point being, said Herrell, that when cloud-based machines are on their own private network with the database servers, developers are free to pass encrypted packets back and forth freely. When those servers are just out in the open on the cloud host's network, security and communication integrity can be a major concern.

Vyatta's future plans

Raj Kanaya, cofounder and CEO of WAN-optimization company Infineta Systems, said that network virtualization will only become more commonplace as standards emerge. "You have new technologies and standards like

continued on page 32 ▸

Virtualization is not just for machines

◄ continued from page 31

VMware's VXLAN," he said. "That's taking traffic IP packets and encapsulating them in such a way that you can have overlapping address spaces and so forth. The net of it is with network virtualization; the challenge for the WAN optimization players is that it gets more complex to actually crack open the packets and inspect them."

He also added that his company's hardware-based approach can handle that increase in complexity. It all comes down to being clever.

And Vyatta has included some serious cleverness in its most recent versions of its platform. "All network devices have a control and forwarding plan," said Herrell. "For Vyatta, the control plan and forwarding plan have always been welded into the same software. One of the things we've done recently, we've architecturally separated the control plan from the forwarding plan. One of the reasons we did this is because as servers get more and more densely packed with VMs, and as these servers are getting more powerful, we can do more. Think of someone taking a rack out of commission after three years. Those were two-core virtual servers. Now you're replacing them with 20 cores. You're going to have a lot of applications in there.

"That means you've got 70x the amount of network traffic in and out of that server. One of the things we saw coming was the need for Vyatta to scale to previously unprecedented heights. When we separated these planes, the forwarding vPlane [Vyatta's software that allows end nodes in the network to participate in the virtualized network] sitting on a core can do 8 million packets per second. You put a vPlane on each core and it multiplies because it scales linearly. We bypassed a whole bunch of schedulers in Linux and some others in the virtual network interface card. By bypassing these schedulers, we can do a run to completion model under the hood and handle packet forwarding at clock speed." ▮

Vyatta's Kelly Herrell cites the explosion of applications as a driving force for virtual network adoption.

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AMYUNI Technologies

A/B testing chooses winning app strategies

◂ continued from page 16

basis of user identity, percentages or other factors.

"It's the product managers who are our champions," said Reynolds. "It really hangs on how a whole organization behaves. The old model was that product management was out on a peninsula, and they'd walk the drawbridge back to development and maybe be refused admission. Every few weeks, the high priest of analytics pulls the numbers out of a hat and says, 'This proves everything!' "

That's all changed thanks to continuous deployment, said Reynolds. "The business part of the organization is no longer out on that peninsula, it actually ends up right in the center. It can be in the center of creating that application. For a typical application, it's build, deploy, and sometimes people just give up then. At that stage, it's made no money. It's the product management team and development team and monetization managers that do that hard bit.

"I think using A/B testing gives [product managers] a way to have their own cycle of development. Because there's continuous deployment, product management will initially pick low-hanging fruit. This is what we pick this week, come together with development team and say, 'What do we want to test?' Then that gets instrumented."

A/B testing gets product managers more involved in development, says Swrve New Media's Hugh Reynolds.

A/B's detractors

Of course, SaaS A/B testing platforms aren't the only way to run such tests. A small kerfuffle occurred in the blogosphere in May when a handful of developers compared the effectiveness of an A/B test with the effectiveness of a multi-arm bandit algorithm.

Blogger Chris Stucchio wrote that some multi-arm bandit algorithms are less effective than straight-up A/B testing, but he insisted that such algorithms are epsilon-greedy and not the most effective way to implement a bandit. Instead, he advocated the use of an algorithm from the paper entitled "Finite-time Analysis of the Multi-armed Bandit Problem."

Stucchio showed that the Finite-time paper's algorithm is only marginally better than a straight 50/50 A/B test. The real key to the multi-armed bandit algorithms is that they take into account the state of the various elements being tested, rather than simply using a straight percentage on all user requests.

Still, even Stucchio advocated the use of any A/B testing rather than using none. Reynolds mirrored that statement. On the Web, said Reynolds, the tradition has been to write software, deploy it, and then guess what's not working. With A/B testing, he said, the guesswork is removed from application design decisions. "It changes the dynamic where the product and business team end up with a concrete way to effect the bottom line that they previously didn't have," he said.

"It used to be that you commissioned a change, and then crossed your fingers and hoped you weren't heading in wrong direction. It was like a cannon: You shoot, bring it back, load again, fire it, and hope it gets there. A/B testing is more like the guided missile: You fire it in the general direction, then steer it wherever you want to go." ▮

Hadoop 2.0 takes shape

◂ continued from page 24

demonstrated version 2.0 of its Web-based interface for querying Hadoop data. The product is targeted at business analysts rather than developers, and version 2.0 includes extensive new interface customization, charting and graphing options.

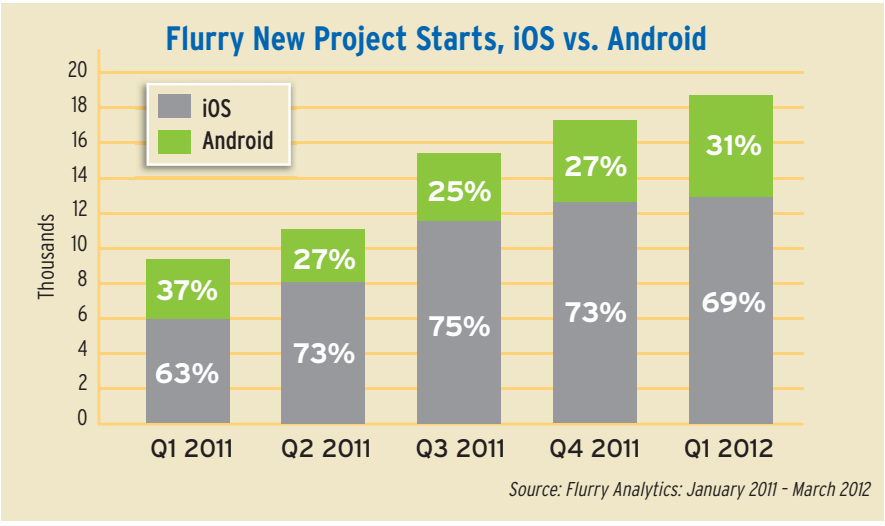
Moving down the stack to the actual data analysis development folks, Karmasphere 2.0 was also released at the Summit. This query life-cycle management and creation tool is entirely Web-based, and gives Hive users a clean and consistent interface for sharing, crafting and tweaking their queries in a social way.

Drawn to Scale, a new startup, introduced its first product, Spire. The company's CEO and founder, Bradford Stephens, said Spire allows Hadoop users to send unadulterated SQL queries into the cluster. Results can be derived in real-time, he said, catering to companies that need fast action on deep data. He added that Spire is now available in beta form.

Dataguise unveiled its informational masquerade and security tools for Hadoop at the Summit. Dataguise is the first company to address data security concerns within Hadoop file systems. It offers Hadoop administrators a way to disguise, anonymize and generally secure sensitive data that's being streamed into, or already exists in, a Hadoop cluster.

Perhaps the biggest product news at the show was Cloudera's first public showing of Cloudera Enterprise Edition 4.0. This repackaged and enhanced Hadoop distribution is targeted at large business users of Hadoop, as the company's free edition cuts out after 50 nodes.

Cloudera Enterprise Edition 4.0 brings in updated packages from the Hadoop ecosystem, like Apache Avro, Flume and HBase. The Cloudera distribution also includes speed-ups for standard Apache Hadoop functions, such as MapReduce shuffle, faster disk I/O and faster file system reads. ▮



Apple continues to garner more support from developers. For every 10 apps that developers build, roughly 7 are for iOS.

Android, iOS diverge on maps

◂ continued from page 20

fied with their phones because they are running an ancient version of the operation system," he explained.

Android software and phones need to be more tightly integrated, according to Hillegass. "For example, iOS uses a lot more hardware graphics acceleration to make the user experience smoother and snappier," he said.

Finally, Hillegass thinks that Android needs one convenient app store. This would help both consumers and developers. "Apple has created an environment where users feel very comfortable buying an app," he said. "First, there is only one app store for iOS, and it probably already has the user's credit card on file. So the first app purchase is convenient and not scary. Second, if a user already has an iPhone, their next phone will almost certainly be another iPhone. Android does not yet have the same level of customer satisfaction or customer retention."

Thus, if users buy an app for their iPhone, they can be sure that they won't need to repurchase that app when they replace their phone. Plus, Hillegass pointed out that iOS users expect to pay for apps. "Android users do not expect to pay for apps," he said. "Regardless of the number of Android devices, this makes it very difficult to make money selling Android applications."

Purdy agreed with Hillegass that Google has to make purchasing easier for Android users. This would ultimately help Android developers sell more of their apps. "In iOS, it's all done through iTunes accounts, which removes paying for things directly from the apps," Purdy said. "I think that Google plans to use Google Play this way, but they first have to create a unified media delivery platform that's better than iTunes."

Google can also look to increase Android support from app developers by reducing fragmentation. "Fragmentation reduces the quality of user experience across varying devices in the Android world and increases the cost for developers to test their apps on more and more screen sizes and different sensor sets," said Hilwa. "This is clearly a much easier challenge in the iOS world where the range of devices is much more limited."

Golvin also thinks that Google must diminish platform fragmentation. "This requires working with OEMs and operators to try to ensure that older models are updated as quickly as possible, or that customers with these older devices are incented to upgrade to a newer device," he said. "Building a larger base of devices that employ Ice Cream Sandwich would also allow developers to target phones and tablets with a single app." ▮

COMPONENT WATCH

GrapeCity acquires ComponentOne

Supplier of Windows-based components expands portfolio

BY DAVID RUBINSTEIN

Continuing to expand its product portfolio, Japan-based GrapeCity announced in June that it is acquiring ComponentOne for an undisclosed sum. The purchase follows those of Excel-compatible spreadsheet component maker FarPoint in 2009, and analytics reporting company Data Dynamics in 2008.

GrapeCity is a reseller of software components that it localizes for the Japan market, and had been working with ComponentOne since 1994, according to GrapeCity general manager Rick Williamson. Whereas FarPoint, with its grids, and Data Dynamics, with its analytics, strengthened GrapeCity in Japan, this acquisition helps GrapeCity in Europe and the United States.

"In Japan, best-of-breed [tools] sell best, but in Europe and the U.S., the only way to succeed is as a suite vendor," Williamson explained. "We wanted a company with a big breadth of products, for all platforms, that could give us a wider variety than any other suite vendor."

The ComponentOne name is not going away, though. Williamson said that because of the name's great reputation, everything sold outside of Japan will be branded ComponentOne, including ActiveReports, the former FarPoint software currently sold under the GrapeCity brand. "We had a hard time branding GrapeCity," he acknowledged of the company's push into European and U.S. markets. "So now it will be 'ComponentOne, a division of GrapeCity,'" he said.

GrapeCity's Rick Williamson says the acquisition will help sales in Europe and America.

ComponentOne sells a wide range of components for Visual Studio, including grids and charts, as well as the Wijmo package of UI widgets. There are also components for ASP.NET, WinForms and Silverlight.

Williamson went on to say that in 2013, the company will look at combining technologies to see what's best for its customers. He also said he does not anticipate any further M&A activity anytime soon. "This is it for now," he said. "There's nothing on the horizon, but you're always looking. We think this completes the package." ▮

Telerik takes first steps toward Windows 8

BY DAVID RUBINSTEIN

ORLANDO — With the second-quarter preview release of its RadControls for Metro software development tools at last month's Microsoft's TechEd conference, Telerik takes its first steps into the world of Windows 8, with revisions to its controls for the Metro-style interface the new operating system introduces to the desktop.

"Windows 8 represents a big step forward for Microsoft," said Chris Sells, who joined Telerik in January as vice president of its tools division after an eight-year run at Microsoft. "But the biggest holes left by Microsoft were in data-visualization controls, charts and gauges."

Sells went on to say that Windows 8, where Telerik's controls focus, has a clean, touch-centric UI that's good for interacting with data and "is perfect for a classic-style dashboard. That's something all levels of an organization need."

Telerik's second-quarter release brings charts, gauges and data visualization on XAML, and improves the experience on the HTML side, said Sells. "Over time, we'll be filling out that set of controls. We're contributing members to the Windows 8 community, writing books and applications for the marketplace so we can understand what's really happening." A beta release will open in the summer, according to the company.

Another area into which Telerik is pushing hard is data access. "Client-side data access is pretty limited in Windows 8," Sells said, noting that Telerik is working to offer offline support, caching support and high performance while running on limited-resource tablets.

Along with the moves to support Windows 8, Telerik also has enhanced its "Just" family of products. JustCode now allows you to save your settings in the cloud, so if you make a change in one place, JustCode will replicate that change to all other instances, Sells said. The tool also now has what he called "a great deal more" support for XAML. And for RAD developers, refactoring gives them the ability to check in code they have changed by creating new namespaces in new folders.

The JustTrace memory and performance profiler now can make suggestions for improving performance hotspots, with links that lead right to the trouble and the ability for developers to look at the source code right in the trace tool, Sells said. ▮

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Development and design converge... but not completely

User experiences distinguish apps, so building something functional isn't enough

BY LISA MORGAN

Modern application development is all about user experience. While the need for creating great user experiences is obvious to developers building consumer apps, with more permissive Bring Your Own Device policies, even developers building line-of-business applications have to think beyond utility. Generally speaking, the shift to more experiential designs means that developers are becoming more aware of design.

"It's no longer enough to be a great developer," said Dave Mendlen, CMO at DevExpress. "Now you have to be able to build experiences."

User experience distinguishes one application from another, even in business settings. "One of the things we always hear is 'My social media, my online banking app, my video game,' " said Jason Beres, director of product management at Infragistics. "When the stuff people are using on their off-hours delivers such a great experience, they start to wonder when the at-work experience is not great."

Christian Schormann, director of product management in the Expression Group at Microsoft, thinks most developers realize that today's software requires more than just pixels on a screen.

"Just because more people are aware of design doesn't mean that everybody is good at it or is passionate about it, but there is a general awareness about the importance of design," he said. "The number of developers who are passionate

about user experience has grown a lot over the last five years."

Going beyond the UI

Creating user experiences is more complicated than creating user interfaces (UIs). For one thing, user experiences must consider aesthetics, software behavior, and user interaction. For decades, UI efforts focused primarily on utility, but with the growing popularity of games and mobile devices, the goal is now to delight end users.

"Because software has become part of people's everyday lives, you have to account for how people feel about your software as well as whether they're technically capable of using it," said Todd Anglin, VP of HTML5 Web and mobile at Telerik. "While your software needs to be functional and do what it's supposed to do, usability takes it to that next level where users enjoy using the application, come back for more, and continue to invest in your success."

User experience also impacts the economic success of applications. "The impression your application makes, how it wears, [and] how easy it is to use has a big bearing on the ratings you get, your application's reputation, and economics," said Eric Zocher, general manager of Expression Studio at Microsoft. "If an app has a functional but pedestrian user experience, it's very easy for a polished competitor to climb up the charts. And, as an app goes higher in the charts, it sells more."

Schormann agreed, adding that some applications are becoming more like media. "Software is basically moving away from utilitarian workflow and task-centric things into something that is more similar to media," he said. "Touch device applications are much more like dynamic media: information visualization, information dissemination, entertainment, a stream of news. That does not mean utilitarian applications are not required anymore; they are just not as central in life and probably not the ones people are spending the most time with."

In some organizations, designers, developers and user experience experts collectively build user experiences. David May, lead graphic designer at GrapeCity, said his perfect ratio would be one designer, one developer, and half of a user experience designer. Most organizations lack such luxuries, however.

"The applications and sites that seem to succeed have a tight tie between designers and developers," he said. "We know most of our customers do not have access to designers. That's why we allow developers to easily apply and customize styles without deep knowledge of XAML design or CSS."

Developer involvement in design

Developer involvement in design can vary depending on a number of variables that may include project size, budget and culture. While design and development are distinct areas of expertise, in some shops the designer and the developer are one.

"What's happening a lot is what I call Swivel Chair Workflow," said DevExpress' Mendlen. "Most developers have two or three monitors on their desk. One screen has Visual Studio and one screen has Blend. The flow between the two is happening in their minds as they compose the code on the left and the UI on the right, then they wire those things up as appropriate. The great thing is these tools work so seamlessly together, you can flow your code into Blend and mess with it and then flow the UI into Visual Studio and run it."

It may be that the developer is focusing on all aspects of the code (UI, business logic and data layer), or the developer may have a specialized role. If a developer specializes in UI development by default, he or she has to care about the creation of user experience. The more downstream roles—business logic and data—also may be affected by the design, however.

"Design should matter to all developers," said GrapeCity's May. "The UI guy needs to understand the data and elements being shown—what's truly important, and why the user needs access to it. The non-UI developers also need to realize what and why each piece is important so they can make the proper decisions on the correct data to serve. Building quality applications is a team effort. Each developer needs to focus on [his or her] duties with the end design in mind."

How data is collected and validated, and how the format is collected and stored, can have an impact across the application. "Does it come from the database, the database developer, or some other level of the application?" said Telerik's Anglin. "Understanding where in the grand scheme of things my logic layer will exist and manifest is an important thing. The data and business logic programmers need to be involved in the conversation that includes the UI guys on the front end, because all of these things are connected to deliver the final product."

The point is to surface the right data at the right time, which may require some work on the front end, the back end or both. An example is Model View ViewModel (MVVM) development, in which models are created in code. The models do not align with the database structure, so either the code has to be modified to ensure that the data appearing in the UI is right, or the database administrator or developer has to create views or procedures that serve up data in a manner that it can be used.

"If you have people working at different layers and there's no interaction between them, it can be challenging," said Infragistics' Beres. "You could be rocking and rolling on the front end, but the data is not available. If that happens, you have to go back and not only do some database work, but write some more code and then bind it to the UI."

Although some developers have become passionate about design to the point of seeking out design-related education, most are choosing to focus on their core competency. "I don't get any sense that developers are suddenly becoming skilled usability experts and skilled designers," said Anglin. "They

continued on page 40 ▸

◄ continued from page 39

may be given tools that allow them to do things designers can do, but a developer's way of thinking and a designer's way of thinking are appropriately different. If we were all left-brain thinkers, we'd have lousy designs. If we were all designers, we'd have non-functional software."

While developers generally may be more aware of design than before given today's focus on user experience, most realize they lack the expertise necessary to become a "true" designer.

"In the high end, where there's an agency involved, the level of developer engagement in the UI is relatively low. The agency hands off the assets and the developer implements them," said DevExpress' Mendlen. "Design is a distinct discipline, something people go to school for their entire lives, so you don't want to trivialize it. You can't just buy a book and be a designer, but what you can do is take advantage of design concepts and prebuilt user experiences. Even though you may not aspire to be a world-class designer, you do want your application to have the right level of visual design."

In addition to thinking about the aesthetic design and the function of the software, user interaction also must be considered. In the case of controls, someone has to decide which types of controls are best suited to particular actions and gestures, for example.

"Twenty years ago, you had one graphic designer. Now you have front-end developers, back-end developers, interaction designers, visual designers, and analysts," said Tobias Komischke, director of user experience at Infragistics. "The overall goal is they work together in a very user-centered process to deliver something that is better than the individual parts could ever be."

Infragistics has a user experience team responsible for design and a UI team of developers who implement designs. Komischke said the user experience team makes a point of involving the UI team early on because the early front-end discussions may influence the choice of technology used.

"We bring developers in as early as we can," he said. "If we think we need a rich activity somewhere on the screen, it may make the difference between using a XAML-based platform rather than a non-XAML-based platform."

Seven ways to get smart about design

Learning design is like learning a new programming language. You have to learn the terminology and the rules, but more importantly you have to apply the knowledge you've gained.

- **Make a point of working with talented designers.** Observe what they do and find out why they've decided to go in a particular direction. Theory and practice may differ for good reasons.
- **Immerse yourself in the craft.** If you're serious about learning design, read design books and blogs, attend conferences, and check out the educational resources some of the solution providers are making available for free. Also, get familiar with the tools designers use.
- **Pay attention to design guidelines.** They're available for Windows Metro, iOS, Android development, and more.
- **Practice, practice, practice.** If you want to understand design, there's no substitute for experience.
- **Develop a portfolio.** Every professional designer has one.
- **Get a jumpstart with UI controls, tools and frameworks.** A lot of companies offer UI controls, tools and frameworks that provide out-of-the-box designs and functionality. They also tend to offer a lot of flexibility, so you can customize the designs with relative ease.
- **Think beyond eye candy.** Just because a design looks great doesn't mean that everyone (or anyone) will want to use the software after five minutes. In addition to looking great, software has to be useful, productive and efficient.

—Lisa Morgan

Converging vocabularies

Developers know better than to try discussing the nuances of C++ development with a typical graphic designer. Conversely, graphic designers tend to avoid leading and kerning discussions with developers. Thanks to the Web and the mobile device explosion, some visual and interactive designers have become very knowledgeable about HTML5 and CSS3, while more developers have become knowledgeable about concepts such as theming. As a result, there is more vocabulary overlap between the two camps, which can result in better mutual understanding and better workflow efficiency.

"There is more shared vocabulary between developers and designers now," said Tim Aidlin, creative director at DevExpress. "Designers are learning HTML5, CSS3 and caching because the goal is to improve the user experience."

In addition to learning some common vocabulary terms, more discussions between designers and developers are happening earlier in the application life cycle since the appearance of an application and its behavior cooperatively shape the user experience. And the behavior of the application may affect the choice of technology.

GrapeCity does a lot of MVVM development for HTML5 and Silverlight. Bernardo Castilho, CTO of ComponentOne (which was acquired by GrapeCity), said that because the view model is directly correlated with the view, developers and designers have to agree up front how an application is going to look and how it is going to operate.

"Designers are working much more closely with developers now because the developers are writing the view models, which disclose the object model for the consumption of the view," said Castilho. "If I'm writing the view model, I need to know what the view needs, so I have to work with a designer. If the designer and the developer are the same person, the developer has to think about design at an elevated level."

One of the principal developers at Infragistics has a degree in usability and user experience. While he understands both design and development, he is nevertheless a developer at the end of the day. "If you talk to this guy, it's immediately obvious that he thinks holistically," said Infragistics' Komischke. "Yet, his time is not split 50/50 between design and development. You have to focus on

continued on page 43 ►

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Can tools alone bridge designer/developer chasm?

BY LISA MORGAN

Microsoft attempted to bridge the gap between developers and designers many years ago when it introduced its Expression Blend design product. At the time, designers were creating mockups in Adobe Photoshop or Illustrator, and then handing the designs to programmers to code. While the practice is still common, the thinking was that both designers and developers could be more efficient if there was a way to technologically link designs to code.

With that in mind, Microsoft made a point of providing deeper integrations between Visual Studio and Expression Blend with each new product release to further improve workflow. The problem was that most designers didn't exactly embrace Expression Blend with open arms.

"There was a huge mismatch between the typical developer and the typical designer we were trying to address," said Christian Schormann, director of product management of the Expression Group at Microsoft. "The process of designers just creating designs and handing them over to developers didn't work that well."

At the time, Microsoft had built the Windows Presentation Foundation platform, which separated the functional layer of the controls from the UI. That meant developers could change the appearance of controls without rewriting them. Despite the desire to create a process and mechanism that would enable designers to be more involved in the implementation process, there was a huge market of graphic designers who were comfortable with their existing tools and processes.

"We found that [Expression Blend] worked well for more sophisticated and technically advanced designers who had already adopted things like Flash and were already interested in the intricacies of building interactive designs," said Schormann. "It did not work so well for visual designers whose domain was Photoshop or Illustrator. In hindsight the reason is obvious: When you design something in Illustrator or Photoshop, you can assume you can make it pixel perfect, but if you want to create software that resizes to fit different screen sizes, resolutions and aspect ratios, the software needs to be able to lay itself out automatically. As a designer, you have to think about that before you think about the implementation technology."

Microsoft introduced sophisticated layout containers such as the grid for XAML, but designers didn't really understand why they would use a grid, how they would use it, what a user might want to do with it or how it works, said Eric Zocher, general manager of Expression Studio.

"Different tools address different aspects of the design spectrum," said Schormann. "The word 'designer' can mean a lot of different things, and one of the most important things has nothing to do with visual design at all. You need to be able to build information architectures that are about storytelling. You need to figure out how you create interactions that are natural, productive and engaging. These skills are not the skills that people trained in Illustrator or Photoshop necessarily have. Different tools have different purposes."

Microsoft's process model is most popular among design-savvy developers and interactive designers. Expression Blend users tend to be more technically proficient than the average graphic

continued on page 44 ►

◄ continued from page 40

the part you really want to excel in."

While some developers are learning the language of basic design concepts through osmosis, it is nevertheless helpful to have a common vocabulary as long as the definitions are consistent and mutually understood by developers and designers. "When you have two people talking about the same thing in different ways, you have chaos pre-programmed," said Microsoft's Schormann. "More developers care about design, so they are learning the language, and more designers understand that to build great interactive designs, you have to understand a bit of the technology."

Knowledge is (design) power

Not all developers have the same interest in design, nor are all equally required to be involved in design. Those wishing to learn more can seek out resources such as books, blogs, conferences, samples, components, frameworks, videos, and outside consulting services.

"There is head knowledge and actual design knowledge," said Telerik's Anglin. "Understanding the vocabulary and key concepts is easier than learning to be a great designer in practice. You

continued on page 44 ►

Read up on design

Don't Make Me Think: A Common Sense Approach to Web Usability
by Steve Krug

Sketching User Experiences: Getting the Design Right and the Right Design
by Bill Buxton

The Inmates Are Running the Asylum
by Alan Cooper

About Face
by Alan Cooper

Brave NUI World
by Daniel Wigdor

Designing Mobile Interfaces
by Steven Hoober

◂ continued from page 43

can't just pick up a textbook or read a blog. Learning means expanding your horizons, looking at what you're not doing day to day, and getting involved in communities that are outside your comfort zone."

Acquired knowledge has to be applied to be valuable. Anglin recommended seeking out projects that challenge current abilities. "If you want to embrace design, you have to become that and not just give it lip service," he said. "You can't just fire up Photoshop, add shading, and call it software. If you want to develop design competence, you have to become much more saturated in the design experience."

Telerik is now providing guidance in the form of videos, blogs, articles, tutorials, reference applications and white papers. One of the more popular topics is how to migrate a Windows Phone app to a Windows 8 Metro app. Telerik also offers UI controls and the Kendo UI, which is an HTML5, jQuery-based framework for building modern apps. Using such solutions enables developers to do things such as build and customize themes without having to know the styling language, which is faster, cheaper, and less frustrating than starting from scratch.

GrapeCity also offers UI controls and tools, including ClearStyle for Silverlight and HTML5 for Steamroller that simplify styling. The company is currently working on samples and white papers focused on MVVM. "We're trying to make it easier to do some designer-like things in easier ways," said Castilho.

DevExpress and Infragistics are also putting the power of design, interaction and prebuilt code in the hands of developers. DevExpress' recently announced DXperience 12.1 helps developers deliver next-generation user experiences on the desktop, on the Web, and across devices. The company also offers free webinars and blogs, some of which address design.

Infragistics' NetAdvantage Ultimate is a complete cross-platform, cross-device development tool set that enables great user experiences across mobile devices, on the desktop, and on the Web. In addition to providing webinars, podcasts and videos, the company now offers design tutorials and design-related consulting services.

Bottom line, there is no shortage of tools or resources. The question is the degree to which individual developers wish and are required to get involved with design. While design and development remain separate areas of expertise, there are nevertheless bridges emerging in the form of tools, technology, services and people that make it possible to create great user experiences more efficiently. ▮

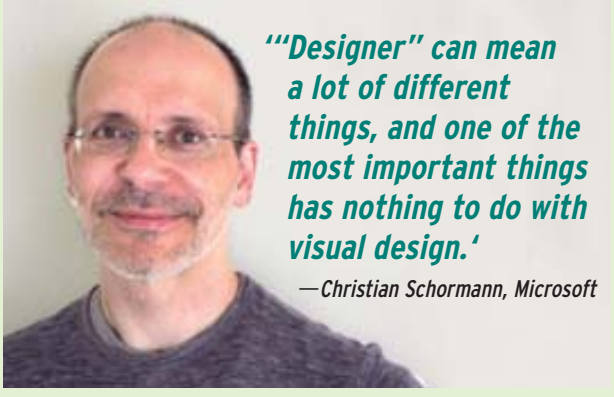
☐ Find this story at http://sdt.bz/36734

More than just tools needed to bridge chasm

◂ continued from page 43

designer because the product requires it.

"You can be sure it wasn't designers begging for more Visual Studio in their environment," said Todd Anglin, VP of HTML5 Web and Mobile at Telerik. "What happened is that developers working on the UI were challenged with using two tools: Visual Studio for code and Blend for UI tweaking. Developers are still doing what they've always done, which is implementing a designer's work. They just need better tools to do that."



'"Designer" can mean a lot of different things, and one of the most important things has nothing to do with visual design.'

—Christian Schormann, Microsoft

The idea is to make it easier to turn an artistic creation into an actual implementation without a lot of painstaking work in code. Developers who translate a design into code would prefer a single tool to do both of those things efficiently, which Microsoft has attempted to address with Visual Studio and Expression Blend.

"Workflow is a point of friction that we and Microsoft try to solve, because if you can't change the way people think, you can at least help reduce that barrier," said Anglin. "In the XAML world, Blend makes it easier to connect front-end code and back-end code, but the majority of design is still done in external tools that don't convert to code. The workflow needs more attention."

While Visual Studio and Expression Blend have been particularly helpful for XAML developers, reducing developer/designer friction needs to be better addressed in other areas of software development, including HTML5 and CSS3. Given the popularity of those technologies, more tools are expected to bridge the design/development gap in the next 18-24 months. In the meantime, Microsoft announced Expression Blend for HTML5. (And, of course Visual Studio now supports HTML5.)

"The main difference in workflow we've enabled is that designers can directly participate in the development process and work on the final efforts that go into production," said Schormann. "Also, software is getting more complex—interactivity has to be coded—and when you have sophisticated activity, you basically have to hand the job off to coders."

Over the next 5-10 years, Microsoft will focus on making user experience designable rather than programmable. "Our whole mission going forward is about making design more accessible to developers or design-centric workflows, rather than basically having to shift into programming," said Schormann. ▮

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The great migration:

It's harder than you think

How to get your legacy apps up to date

BY JENNIFER DEJONG LENT

Legacy migrations are the second-class citizens of app development shops. At first glance, they appear smaller and less significant than from-the-ground-up projects. But, in reality, they require enormous effort from analysts, architects, coders and testers.

"A lot of folks don't understand what's involved. They don't appreciate the magnitude of the effort required," said Yash Shah, director of software engineering for app development consultancy Zeon Solutions. "There is so much detail to consider, so much investment in time."

Yash Shah and other legacy migration experts shared best practices for succeeding at these challenging projects. Not surprisingly, migrations require many of the same skills as other development efforts. Even in cases where code can be ported from the old app to the new, there is always planning, coding and testing involved. The advice the experts offered focused primarily on app development practices that are especially relevant to migration efforts.

Understand the scope of the project

In theory, moving a single legacy application to a new platform is straightforward. In reality, it's rare for any key business application to operate independently of others, said Chuck Townsend, vice president of technical solutions for tool maker T3 Technologies. "Data dependencies make things more complicated. When you move one app, you are changing the way that app connects to others," he said.

His recommendation is to group sets of apps that fit logically together, such as those for warehousing or those for accounting, and plan to move them at the same time. "You have to understand at the outset the implications of moving

continued on page 48 ▸

◂ continued from page 47

one but not all," he said. It's also important to factor in dependencies to off-the-shelf applications, he noted.

Dig deep and fix the flaws

It's age-old advice but it bears repeating: Make sure the app does what people who use it need it to do. "Even though you are replicating the existing system, you need to ensure you are not redeveloping functionality that was incorrectly defined in the first," wrote Joy Beatty, in a blog post published by app development consultancy Seilevel.

Moving an existing application to a new platform offers an opportunity to address the drawbacks of the older system, added Maulik Shah, cofounder and CTO of app development consultancy Mantra Information Services. "In any app, there are features users like and features they dislike," he said, adding that it's crucial to dig deep and find out what they are. "Talk to the people who use the software every day."

In addition to identifying likes and dislikes, find out what features are missing and what steps are still taken manually, said Maulik Shah. "All this should be factored into the new system."

What's missing is often the result of business processes that have changed substantially over time, noted Zeon's Yash Shah. He recommended focusing on two key questions at the outset of migration projects: "What processes have changed and need to be redone? What do [the application's] users do now, and how do we design the new app to support that?"

Five factors that advance legacy apps

BY JENNIFER DEJONG LENT

From mainframe to mini to client/server to Web, legacy migrations are nearly as old as the earliest enterprise applications themselves.

Past migrations were about moving to smaller, less expensive hardware while also improving access to key business information stored in these giant systems. "Today, migrations are more complex than just jumping from old to new platforms," said Interarbor analyst Dana Gardner. A host of new reasons to move away from legacy apps has emerged, including the growing sophistication of e-commerce offerings; demand for apps that map more closely to actual business workflow; increased collaboration around social media sites; general demand for simple, clean user interfaces; and a new generation of developers that lack the skill sets legacy apps require.

Savvy sites for online sales

The earliest e-commerce sites did little more than take orders, said Steve Gapp, president of LANSA, which sells app development tools and services. "Today, companies that sell online have moved way beyond that, running highly sophisticated Web apps," he said.

These sites interact with inventory, billing and customer data on a continual, rapidly changing basis, and that is difficult to do when data is housed in legacy systems, he said. He gave an example of a sales technique common among online retailers today: Companies run dynamic promotions on their websites, offering discounts on merchandise to a group of customers for a period of time. "These promotions impact pricing and volume and, as a result, feed directly into the legacy codebase," he said.

Of course, early e-commerce offerings also had to reconcile online orders with back-end systems, but they didn't necessarily do so in real time. And even when legacy apps were linked to the Web, the connections were often brittle, said Stefan Andreasen, CTO and founder of tool maker Kapow Software.

"Sometimes you can morph a legacy app to serve your needs and come up with a good enough solution," he said. "Legacy applications were not built to interact with the Web."

These "good enough" solutions typically result in what Andreasen called "bad usage scenarios." When customers aren't satisfied with a website experience, they may take their business elsewhere, he said. "It takes a long time to regain customers' respect once you have given them something that is junk."

Workflow not flowing with legacy

As cofounder and CTO of app development consultancy Mantra Information Services, Maulik Shah sees a lot of situations where a client's business process has evolved way beyond the legacy application originally designed to support it. "The workflow around business processes is always changing," he said. He offered a couple of examples: There's a new accounting system, but the legacy app isn't tied to it. In addition, the outdated app doesn't do a good job of accommodating employees who want to use their smartphones to close sales in the field.

Shah said that when he works with a customer to map out workflow around a business process, he often discovers steps that are still carried out manually, as well as tasks that are tracked in off-the-shelf software like Microsoft Excel. Typically it's a combination of factors like these that lead a company to abandon a legacy app in favor of a more modern solution that reflects how business is really conducted, he noted.

"What we are seeing is the need for Web-based apps that can accommodate

Once those questions are answered, the team can begin to prototype the new workflow, but don't write the code, said Yash Shah. "Map out the steps, visualize what's involved, and continue to work with the people who use the app," he said.

First modernize, then migrate

Migration projects are all about moving away from mainframes and minicomputers. But the aging systems aren't always abandoned entirely, said Ross Mason, CTO and cofounder of MuleSoft, which sells integration tools and services. "Large banks and insurance companies, in particular, continue to store data on the mainframe, even when the business application itself is migrated to a modern platform," he said. To enable the modern app to get at information housed in older systems, the data is wrapped in a services layer, he said.

The services layer essentially restructures the mainframe codebase, added Steve Gapp, president of LANSA, which sells app development tools and services. "That means even a young .NET developer [for example] can easily be instructed to the call the service."

Determine the data structure

Modern apps may pull data from the mainframe, but they also need access to other information sources. It's crucial to design the application with this in mind, said Stefan Andreasen, founder and CTO of tool maker Kapow Software. "You have to restructure your data for the new world," he said.

continued on page 51 ▸

all of this business process activity on a single platform," said LANSA's Gapp. He said that when clients engage his firm, the issue of workflow inevitability comes up, no matter what problem the client initially presents. "You peel one layer off the onion and [you realize] workflow is what they are talking about."

He cited an example of an insurance company that still relied on a mainframe app to write new policies for customers. Developed in programming language RPG, "The green-screen app worked but it was rigid," he said. What's more, it did not accurately reflect all of the steps involved in the policy-writing process. Nor did it offer any way to track the many documents associated with that activity. To address those shortcomings, LANSA implemented a modern workflow engine on top of the legacy codebase.

3 Redefining usability

Application user interfaces are a work in progress. And while they have evolved dramatically since the green screen, there is still plenty of room for improvement. Demand for apps with a simple look and feel still drives legacy migrations, said Mantra's Shah. "People want simple user interfaces that are a no-brainer to use," he said. The Web has set the standard for what those interfaces should look like, and that's making not only the green-screen UIs look dated, but also those of client/server applications developed in the 1980s and 1990s.

The look and feel of these offerings represented a giant step forward, but most still required a company to train employees to use them, said Shah. "Data entry [for those systems] could be complicated," he said.

Worse still, employees using client/server apps in a call center setting, for example, often had to tap into more than one system to handle a single inbound customer request, said Gapp. "It was so inefficient that a customer might hang up before the question was answered," he said.

4 Getting social

Another driver that is moving companies away from mainframe and client/server apps: The need to collaborate around social "Social media is a consideration around projects these days," said Gapp.

Early examples of linking legacy to social media include connecting enterprise HR apps to LinkedIn to scout candidates, said Ross Mason, founder and CTO of MuleSoft, which provides tools and services for app development.

Andreasen predicted that the ability to link enterprise applications with the social media collaboration site Salesforce Chatter will become increasingly important, and that is likely to drive companies to migrate legacy apps to modern platforms. He offered an example: "I am discussing a specific sales situation with my company colleagues on Chatter. I need access to data in the contract management system, the ERP app, the customer support offering, as well as documents housed in SharePoint." It's simply not practical to make all of that happen without migrating legacy apps to modern platforms, he said.

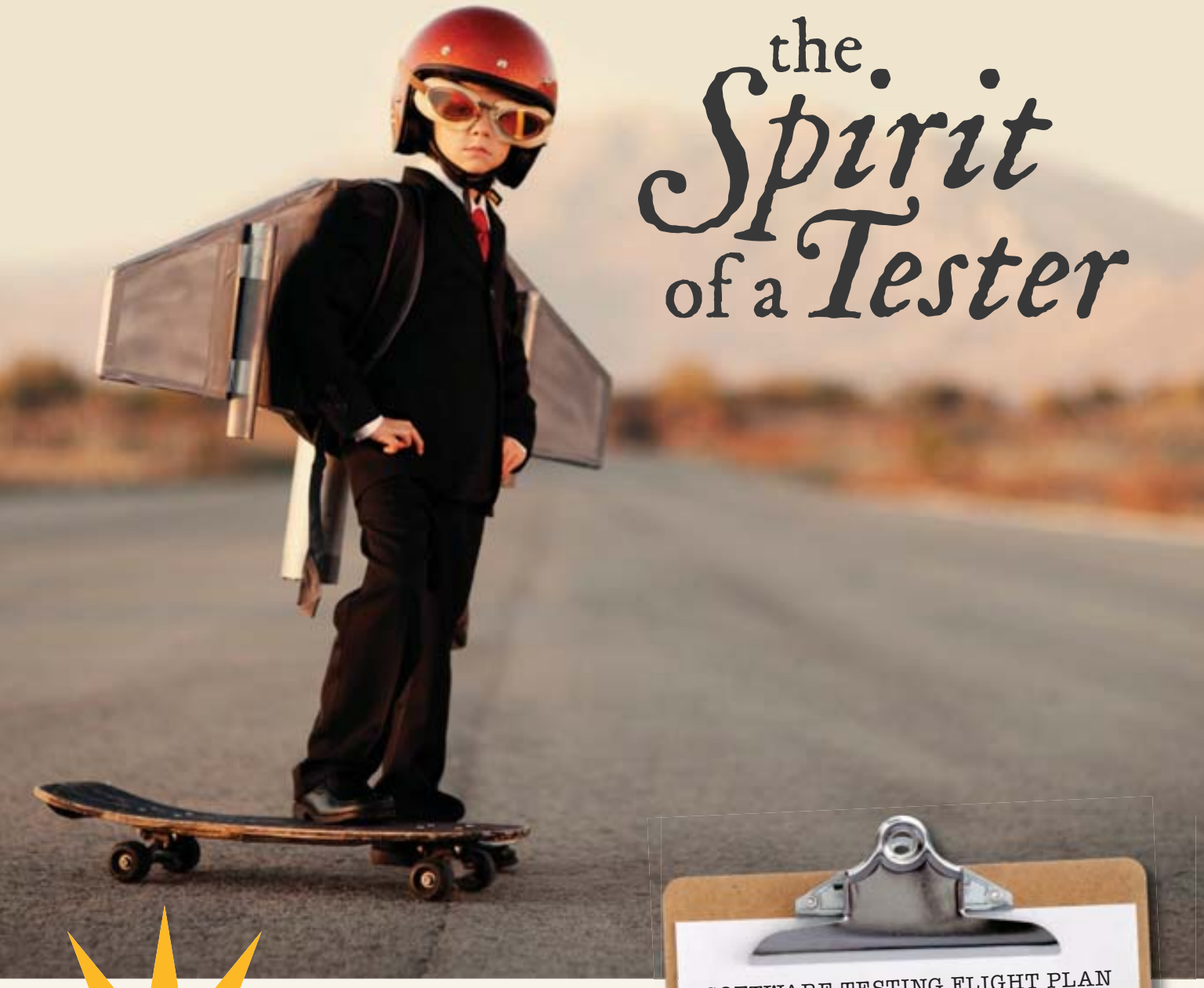
5 New developers don't do legacy

The final reason to migrate mainframe and client/server apps to modern platforms is a purely practical one. "Where are you going to find the talent to maintain and update them?" asked Eric Green, vice president of sales for Nexaweb, which sells software and services for modernizing legacy apps. "Kids coming out of school don't want to work in legacy technologies; there aren't a lot a lot of new developers doing PowerBuilder," he said.

Developers with COBOL skills are in even shorter supply, added Chuck Townsend, vice president of technical solutions for tool maker T3 Technologies. "You can find them today, they want a lot of money, but where the heck will I get COBOL programmers in five years?"

This isn't just a hypothetical situation, added Gapp: RPG and COBOL apps running on the IBM AS/400 are still in wide use. "And the professionals who maintain these applications are reaching retirement age," he said. "You have think seriously and decide what you are going to do. Where would you even find someone to train young developers in RPG or COBOL? Certainly not in the U.S., but maybe in India."

Beyond the coming shortage of legacy skills, there's another concern, said Gapp. As young business executives rise up the corporate ranks, they have high expectations about what the apps they use should look and feel like. Legacy apps are going to fall far short of their expectations. "It's important to be able to deliver that information in a way these young executives see as appropriate," he said. ▮



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◂ continued from page 49

He offered an example of how the older systems differ from new ones: "Older systems typically have no references to outside data. Any references point to data that resides in the same application." But modern systems must be designed to reference data from outside sources, he explained. Structuring a modern application this way makes it easy to grow the application in the future, adding new data sources as needed, he said.

Getting the data structure right also entails devising a common way to represent things like customer records across all data sources an application interacts with, said Mason. "The same customer may be represented different ways in different systems, so you have to determine what the master customer record looks like," he said.

He said it's easy to overlook this issue at the outset of the project, and Andreasen agreed. "It's the No. 1 failure we see [in migration projects]. The team hasn't sat down and taken the time to understand how to structure the data," he said.

Four personas to watch out for

According to Forrester analyst Phil Murphy, development teams that embark on legacy migration projects are likely to encounter within their organization business and technology professionals who have strong and unreasonable opinions about the "right" platform for legacy migration projects. Here's his take on the four types to watch out for.

Low-Cost Louie. Cost reduction is the only thing that matters. But before you take this guy at his word, make sure he understands the degradations in performance, security, reliability and scalability that can result from going with the lowest-cost option.

Young Turk. Young Turk CIOs are the up-and-comers looking to make their mark early in their careers. They may take a new job and see a mainframe for the first time, or see Oracle/Sun where they prefer HP, IBM or Dell, and may make an arbitrary decision to "sweep the floor" of any technology they don't like.

Big Iron Bigot, Lunatic for Unix, Loco for Linux, and Microsoft Maniac. These platform supremacists are mostly technical types with a vested interest in keeping or adopting one particular platform. Their input may be based on facts, but the facts themselves are outdated.

Loud and Proud for Cloud. This newest persona maintains that all of IT can be provisioned and run via a credit card in an elastic, virtualized, commoditized, and completely integrated environment at a fraction of your current costs, and that resources can be turned on and off at will. That, though, might not be best for you.

Source: Adapted from August 2011 Forrester Research report: "Mainframe Migration–Panacea or Pandora's Box?" by Phil Murphy.

Conduct a data migration analysis

Migration projects present other data challenges as well. The team has to figure out what data is essential to the new app and what's not. "Someone has to make a decision as to the right set of data to migrate," said T3 Technology's Townsend. This is often more complicated than it initially appears. He gave an example of a bank that would have a set of data at each of the local bank branches, and a set at the bank's headquarters in Zurich, Switzerland.

Migrations that involve data subject to government regulations, such as the data privacy rules stipulated by the Health Insurance Portability and Accountability Act, further complicate matters, said Zeon's Yash Shah. "Data is always important, and even more so when it's subject to compliance mandates. You need to analyze what data must be ported over," he said.

Mantra's Maulik Shah offered an additional piece of advice: Don't overlook historical data that dates back many years. "It can be useful, and if you don't migrate it, you have to set it up yourself at the get-go," he said.

Automate data access and analysis

How you get at the data matters, too. "When data is pulled from dozens of sources, you need to do it in an efficient way, using tools to automate the process," said Ibrahim Surani, CEO of data integration tool maker Astera. Once the data is in hand, profiling tools can help clean it up by creating rules against which to measure the data, he said.

A final step involves reconciling the data moved from point A to point B. "How do you know if you have moved it correctly?" said Surani. "Compare the two and reconcile them."

Avoid the "big bang switch"

Migration projects are often associated with the idea of "changeover at midnight," said Andreasen. "But don't think in terms of the big bang switch. It scares everyone," he said.

It doesn't make sense to shut down the old system and start the new one, added Maulik Shah. "You want to slowly phase out the old app, transitioning small groups to the new app one at a time."

Starting small can minimize the impact of the changeover, said MuleSoft's Mason. He offered an example: "An insurance company that offers auto, homeowners and life insurance policies might choose to migrate life insurance customers first, since that segment represents only 5% of its business."

None of this happens overnight, added Yash Shah. "In a large company, you phase in one location at the time," he said.

Until the transition is complete, the new app and its legacy counterpart should run side-by-side, said Surani. "Make sure you build a bridge between the two of them. How they interact during that period is important," he said.

Don't let past failures intimidate you

In many shops, migration projects have a bad rep, noted Andreasen. There have been many failures, and as a result, managers are afraid to undertake these migrations projects. "But if you do it right, in a modern way, migrations can turn into something good," he said. ■

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Open source in mobile apps:

A best practices guide

BY SUZANNE KATTAU

The use of open-source code in mobile app development is exploding. Flexibility, increased innovation and shorter development times are just three reasons developers are turning more frequently to open source.

According to the sixth annual Future of Open Source Survey, recently conducted by North Bridge Venture Partners and Black Duck Software in conjunction with The 451 Group, open-source software (OSS) investment increased by 49% to US$675 million in 2011. The quality of open source—and the ability to continuously improve it—are two of the top reasons for its adoption, the survey said.

With more than 10,000 new mobile open-source projects launched in 2011 (bringing the cumulative total to over 18,000, according to Black Duck's KnowledgeBase), the use of open-source software in mobile app development shows no signs of slowing down.

"Open source is the foundation for mission-critical apps in the enterprise," said Rod Cope, founder and CTO of OpenLogic, a provider of enterprise open-source software scanning and governance solutions. "Nearly all mobile developers are now using open source."

"There's so much good code available in the public domain," added Mahshad Koohgoli, CEO of Protecode, a provider of open-source license-management solutions. "Good developers don't write code from scratch anymore; they know how to find that code."

This trend of using open-source code in mobile app development is bringing to light new legal responsibilities and design considerations for app developers. As a developer, you should know the following best practices for successfully using open-source code in mobile apps.

One best practice is to choose a basic development approach at design time. "The first step is to evaluate the size and depth of your project," said Dave Gruber, director of developer relations at Black Duck, a provider of solutions for automating the management, governance and secure use of open-source software. "Decide early on just how much code you will do natively and how many open-source components you plan to use in your mobile app."

Another best practice is to learn your company's open-source license policy before you begin development. "Your company should have an open-source license policy set in place," said Gruber. "Make sure you understand the policy so as to avoid a negative code audit at build time. Know if you will be using the Apache license, the Mozilla license or other licenses."

Do you know which open-source licenses your company wants you to comply with? There are thousands of licenses in existence, so it's important to find out. Among the most popular open-source licenses are the Apache License, the Mozilla Public License, the GNU General Public License (GPL), and the GNU Lesser General Public License (LGPL). The GNU Project (a free-software, mass-collaboration project) offers a list of GPL-compatible free software licenses on its website.

Comply with open-source licenses

One of the most important best practices is to comply with open-source licenses, and not everyone is doing this. OpenLogic conducted research last year and found that 71% of Android, iPhone

continued on page 57 ►

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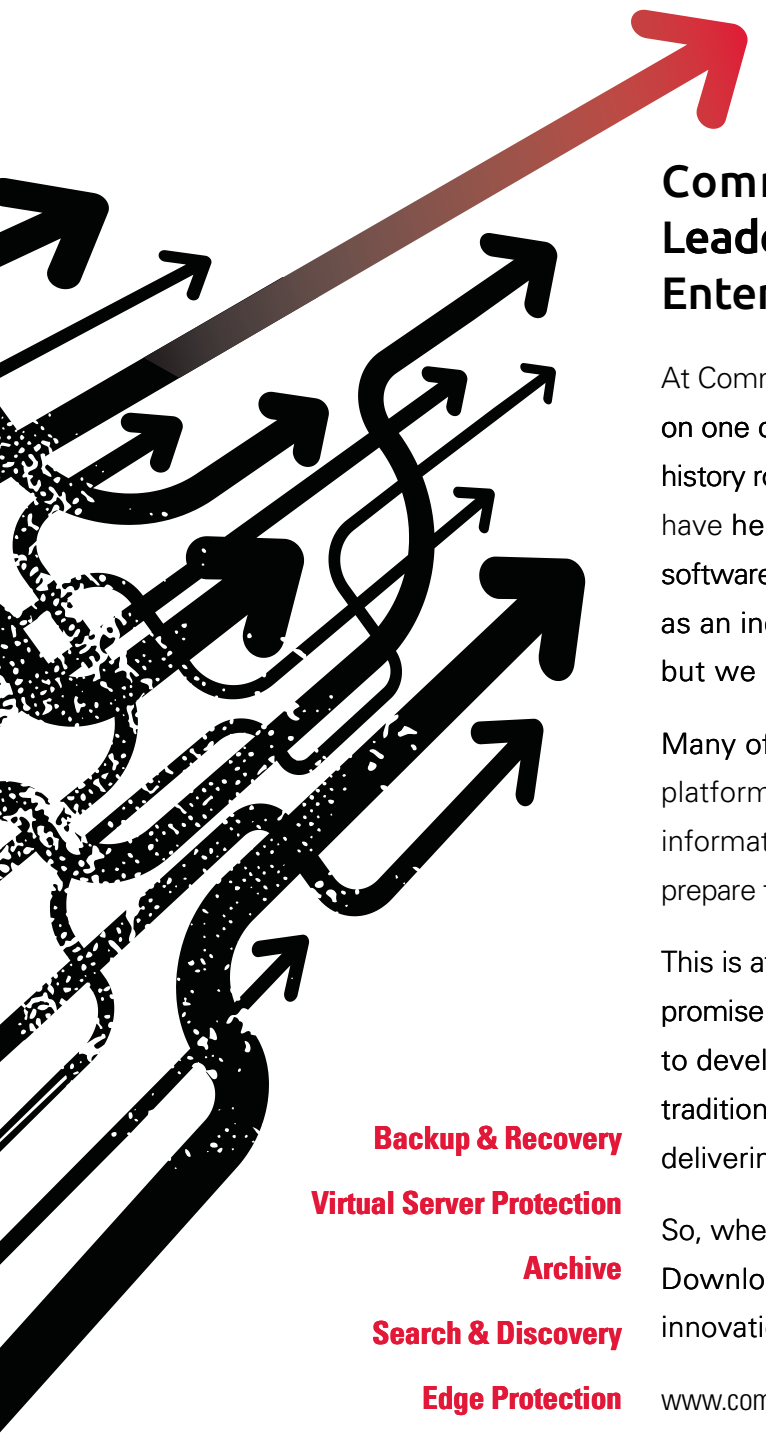

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◄ continued from page 55

and iPad apps using open-source software licensed under the Apache, GPL and LGPL failed to comply.

This is a problem. If you try to distribute your mobile app without having complied with the necessary licenses, you may face negative consequences. One such consequence is working hard on your mobile app only to see it get refused by (or taken down from) Apple's App Store, Google's Android Marketplace, the Windows Marketplace, and other app stores.

But open-source license compliance is not only a smart idea for developers who wish to avoid these negative consequences; it is good for the open-source community itself.

"Open-source developers wish to maintain the integrity of their code, and receive attribution for their work, by utilizing one of the open-source licensing models," said Michael L. Mathaisel, an intellectual property attorney at McCarter & English in Boston.

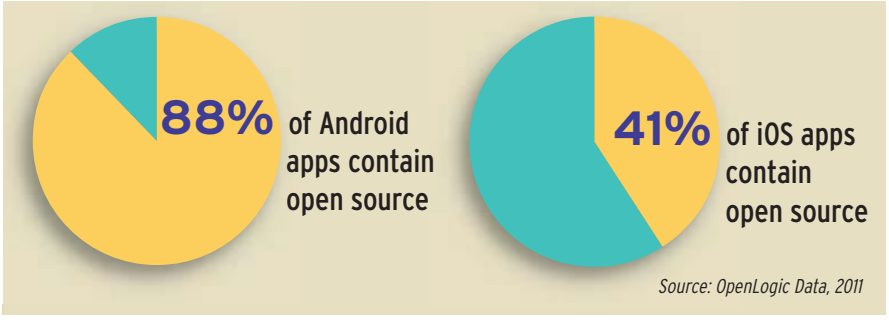
Mathaisel, a former Disney software engineer, added that "Open-source developers make the code freely available to others on what is essentially a type of honor system. General disregard for open-source licenses would lead to the eventual breakdown of the open-source movement, which, in my opinion, would be a real shame."

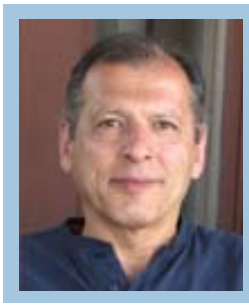
Another best practice is to be aware of the rules of app stores regarding open-source licenses. "Some of these app stores have restrictions on what kind of licenses they accept," said Cope. "And some open-source licenses have restrictions regarding third-party distribution as well."

Many mobile app developers may not have a complete picture of the open-source software they are using but try to submit their mobile apps to the app stores anyway. This can have real-world implications. App stores will often reject apps that don't meet their compliance specifications.

"Generally speaking, you have to be really careful about what development tools go into applications that are submitted to app stores," explained J. Gerry Purdy, a mobile and wireless expert and principal analyst at MobileTrax. "Apple, particularly, does a scan of the source code and looks at the utilities and, if it thinks any of them may be open source that violates some kind of license, it will not approve the app until the software's changed."

You can also get in deep trouble a lot more quickly when you distribute your mobile apps via app stores and other third-party distributors. "Mobile apps are invariably distributed by volume. Apps are downloaded by the millions, sometimes in a matter of days," said Koohgoli. "So if your mobile app has any quality issues or licensing violations, these deficiencies will be discovered extremely quickly."





'There is so much good code available in the public domain. Good developers don't write code from scratch anymore, they know how to find that code.'

—Mahshad Koohgoli, Protecode

Use open-source development tools

There are open-source development frameworks available that can help you rapidly build native apps for all the major smartphone operating systems, including Android, iPhone, RIM, Windows Mobile and Windows Phone 7. You can then submit your finished mobile app to the app stores with confidence.

"Two companies, Appcelerator and Rhomobile, focus on generating applications that are then submitted to these app stores," Purdy said. "They know all the nooks and crannies about how to build—and not build—apps that will comply with the app store environments."

Added Gruber, "PhoneGap is another example of an open-source framework that helps you do this." Adobe's PhoneGap is an HTML5 app platform that lets developers write native apps with Web technologies and get access to APIs and app stores.

"My advice is to make sure your apps support multiple platforms," said Koohgoli. "As a developer, you want to do this to make sure your app has the widest market appeal."

To ensure that your app does support many platforms, use the software that's readily available from vendors. Their software lets you write your source code in one programming language and then use the software to translate it into different languages. Ultimately, your finished mobile app will work on multiple mobile platforms.

Use automated code-scanning tools

Automated code scanning and auditing tools can help you see how much open-source code you use, where specific open-source packages are used, and what needs to be done to ensure compliance with open-source licenses.

"To make sure none of your open-source code violates open-source licenses, use automated scanning and auditing tools," said Gruber. "This can help tremendously in meeting licensing requirements, and also helps others in your organization to see what code you have used."

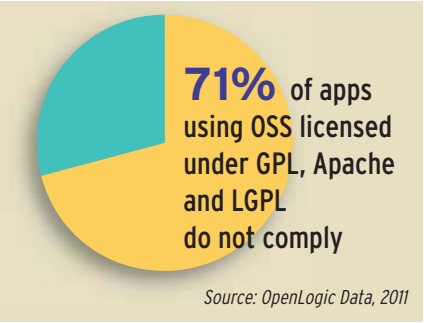
continued on page 58 ►

◂ continued from page 57

Many app developers are already using these tools. In fact, open-source code scans are way up in 2012, according to a statement by OpenLogic. The company has seen a 730% increase in open-source code scans run in Q1 2012 over Q1 2011.

"It's important to do a scan or audit of your source code," said Cope. "Scanning tools are becoming more and more popular as they can really help you find bugs and fix them. You can then report your findings back to the open-source community."

Developers are scrambling to build mobile apps for the most common platforms. In 2011, OpenLogic found that 88% of Android apps contained open source and 41% of iOS apps contain open source.



According to Forrester Research analyst Jeffrey Hammond, these are the two platforms that are still way ahead in terms of popularity. "Right now, the third-party developers who choose OSS licenses are favoring Android and iOS above all others, and favoring Android by a wide margin," Hammond wrote in his May 16, 2012 blog post, "Open source: an emerging driver for mobile first strategy."

BZ Research (the research arm of BZ Media, which publishes SD Times) recently conducted a mobile developer survey that also showed that the two most popular platforms are still, by far, Android and iPhone. According to the survey, the platforms that developers are currently building mobile apps for (in order of popularity) are Android Phone, iPhone, iPad and Android Tablet. The next most popular platforms, the survey said, are for Windows Phone, BlackBerry OS, Kindle Fire, Symbian, Tizen/MeeGo, and Brew.

"By some estimates, intellectual property accounts for 45% of the U.S. GDP," said Mathaisel. "We have shifted from a manufacturing economy to one in which our most important output is intellectual property. In view of this, it is prudent to respect the intellectual property rights of others, as the risks and costs associated with not doing so are ever-increasing." ▮

'Your company should have an open-source license policy in place. Make sure you understand the policy so as to avoid a negative code audit at build time.'

—Dave Gruber, Black Duck

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The World's Drunkest Programmer...

BY ALEX HANDY

The actual title of "The World's Drunkest Programmer" may never be given out in any official capacity, but thanks to the Arduino prototyping platform, the availability of cheap kegerators and the wanton need for frosty refreshment buried deep within the programmer psyche, any team with about US$1,000 can figure out who is the drunkest programmer in the office. The title, of course, can be given out through data analysis.

When Felix Sargent and Chris Gilmer, software engineers at Rackspace, were informed by human resources that the company was moving its San Francisco offices into the trendy district south of Market Street, the pair decided they needed to build something special for the forthcoming office opening party.

That something special was a homebrew Kegbot. The term comes from kegbot.org, where this open-source project's creator, Mike Wakerly, has stationed the project's information. Its specifications and software can be used to turn an ordinary kegerator (basically, a mini-fridge with a tap coming out of the top) into a tablet-driven, RFID-using, beer-dispensing

continued on page 65 ►

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open-source project.

But while Sargent and Gilmer were inspired by Kegbot, they ended up building their entire project from scratch. Under normal circumstances, such a whole-hog rewrite would seem nonsensical, but the pair had a very good reason for trying it on their own: They could get everyone involved.

"We wrote it all. We decided to get everybody to chip in," said Gilmer. "A couple of people worked on the Arduino code, and I wrote the Python code to talk to the Arduino. We have great developers and front-end designers, and they wrote the interface for the computer. We did a computer connected via USB to the Arduino. The Arduino was polling the machine, and we took updates from the machine and saved them in a database. You could log in and see what was going on."

Just what was going on? The software allowed users to view the keg's temperature, pressure and fullness level based on the amount consumed. But most importantly, it could track who drank what.

"We issued everyone an RFID card," said Gilmer. "We bought several hundred—and some subsection of those we hand-painted—one for every employee in the office." In theory, each user's exact consumption, right down to the liter, would be measured and recorded.

Chris Gilmer, left, and Felix Sargent got the whole office to program its kegerator.

Kegerator mishaps

But, of course, there was beer involved, and the project encountered a major snag. "Someone at the party must have gotten drunk and left their card there," said Gilmer. "The RFID had the property of making the kegerator light up, so at that point the flow meters were broken anyway, so we decided every swipe was a glass of beer. So this one poor person, a guest, looked like they had 20 liters of beer."

And in that statement, he hints at another major problem the team ran into: The flow meters they used were expensive and difficult to use. Essentially a small propeller in a piece of tubing, with magnets in each propeller end and a sensor coming out of the top of the tube, these flow meters were a constant problem for the team, said Gilmer.

At the center of this metering problem was the fact that beer is already compressed. When the pressure varied in the kegerator's many tubes and systems, the beer would suffer. "We tried shrinking the amount of tubing. We tried keeping the beer much colder," said Gilmer.

"This is an unsolved problem for us. I think two things would have helped: One was bigger pipes, and bigger flow meters. These weren't made for beer, and every time you get compressed or expanded the beer we'd add head to our beer."

Fortunately for the more adventurous folk in the development world, the Kegbot project offers a very detailed specification, software package and parts list for building such a device on your own. Gilmer said he wouldn't necessarily recommend starting from scratch, but he definitely recommends the project as a great way to involve the entire office.

"Do it! It's a lot of fun!" he said. "It's also a great way to get everyone in the office involved, in that the outcome is exciting for everyone. There are probably better flow meters, and probably better methods than we used. But there's some great hardware people have put a lot of time into in the open Kegbot project. You can pick and choose the features you like."

And, of course, Gilmer added that "We don't drink on the job, obviously, but when you're being social, it's fun, and there's no reason why a good hardware and software project shouldn't involve a little beer."

As for the Rackspace kegerator project? It's on indefinite hold. Someone spilled beer on its internals. ■

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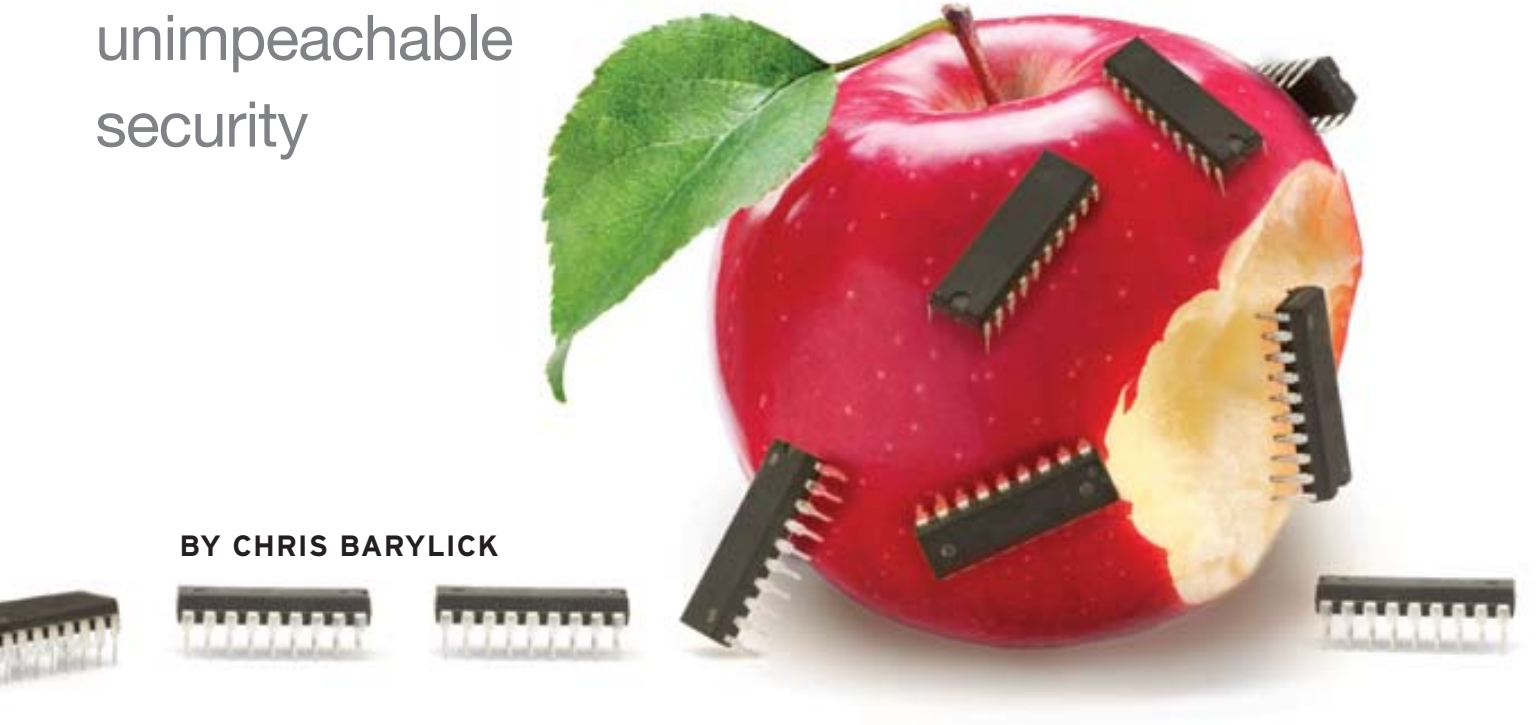
Tales of the BackDoor.Flashback trojan

How Apple's first major malware outbreak busted its image of unimpeachable security



BY CHRIS BARYLICK

The perception of "malware invulnerability" on the Mac OS X operating system has basically fallen apart. A modified version of the BackDoor.Flashback trojan earlier this year had gone into the wild and begun to rack up some impressive infection numbers. At its peak, the "BackDoor.Flashback.39" malware had found a home on more than 600,000 Macs, disguising itself as a critical Adobe Flash Player update to exploit a Java vulnerability. Once a user had gone to a bogus website, a chunk of JavaScript installed an executable applet on the Mac, with remote activation capability.

The malware, which was tied into a larger botnet known as "Flashfake," operated as part of a click-fraud scam that could siphon login credentials and more sensitive information at will, as well as drive Web traffic toward sites involved in advertising campaigns. Still more perilous, the trojan could potentially be remotely updated to take advantage of additional features down the line.

Since the infection, Apple has indicated that the company is working on a process in which the company will

simultaneously issue Java fixes as they're available for the Linux, Solaris and Windows platforms. The company has also begun to tout its Gatekeeper feature for the upcoming Mac OS X 10.8 operating system on its website, citing a greater availability of software and updates through its Mac App Store, wherein developers will be screened in advance. Once approved and uploaded to the Mac App Store, applications can be tagged with a developer's digital signature file to help determine if a file has been tampered with or is actually malware. Developers will need to pay an annual US$99 fee to be allowed into the sandbox sanctum of the Mac App Store, complete with its review processes and the like.

Yet Apple's response to the trojan, according to industry professionals, was not what it could have been. While Oracle, the principal developer for Java, was able to isolate the vulnerability and offer a fix on Feb. 14, Apple would not release a Mac OS X version fix for the Java issue until April 3, with the company later issuing additional updates on April 12 for Mac OS X 10.6 and Mac OS X 10.7 before eventually releasing a fix for the Intel version of Mac OS X 10.5. During this time, the company advised users with older operating systems to disable Java altogether as a means of avoiding the Flashback trojan. Apple was not available for comment for this story.

In the roughly eight-week delay between the Oracle fix for the Java issue and the Apple fix for the same issue, more than 600,000 Macs had been infected, a slew of third-party software companies had begun offering fixes for Flashback, and the prevailing sentiment that Mac OS X was essentially impervious to malware had been shattered.

Yet even with Apple's announced security changes en route, red flags concerning Mac OS X's security have been raised. "Malware was already in the wild and infecting users, but Flashback hit critical mass in terms of the number of users infected," said Lysa Myers, a virus hunter at security software company Intego. "Now, more people are beginning to understand that Macs have never been immune to malware, and they need to be concerned with security just as on any operating system.

"Now that Flashback has proven that OS X is a rich target market, malware authors will develop exploits and malware based on what's found."

'Apple instilled a complacent mindset in relation to the security of their products, enabling multi-month delays in updating Java components on their customers' systems.'

—Kurt Baumgartner, Kaspersky Lab

Apple slow on the uptake

Perhaps the most severe point of contention has been the delay between fixes for the Flashback trojan, with other operating systems seeing patches for the exploit long before Apple delivered its solution. "It's inexcusable at this point," said Kurt Baumgartner, a senior researcher at Kaspersky Lab. "Apple instilled a complacent mindset in relation to the security of their products, enabling multi-month delays in updating Java components on their customers' systems. This work is in opposition to the serious efforts other OS and software vendors have successfully pushed for software development, response and awareness."

When asked about Apple's response to the issue, as well as the upcoming Gatekeeper security features for Mac OS X 10.8, the experts' opinions were mixed.

"Apple needs to 'get' the security religion," said Baumgartner, who pointed out that while the Flashback trojan proved to be a slap in the company's face, Apple has enabled Oracle to handle Java Development Kit 7 deployment on Mac OS X 10.7 as opposed to staying with its longer update cycle. He then pointed out that the company still seemed hesitant to interact with the rest of the security community, including outfits such as Adobe, Facebook, Google and Microsoft.

"Also, Gatekeeper may provide another hurdle for malware writers to hop over, but given more market penetration, an ID is not something that raises the bar that much higher for a determined hacker. How many people have you come across on the street that would let someone else set up and use a test account in their name for $50?" said Baumgartner.

"While few things can prevent a determined, resourceful hacker from getting to your computer, the App Store makes a great deal of sense for vetting applications from the beginning," said David Johnson, a senior security analyst with Forrester Research.

Perhaps vetting from the beginning is what's needed. As of the writing of this article, Flashback's developers have yet to be publicly identified, and recent installations of Mac OS X 10.6 and Mac OS X 10.7 direct users to download the most recent version of Adobe Flash Player from the Adobe website. ▮

☐ Find this story at http://sdt.bz/36718

Chris Barylick is a veteran technology journalist and has written for outlets such as The Washington Post, Macworld, MacAddict, MacLife, PC Gamer, GamePro, Inside Mac Games, and O'Grady's PowerPage.

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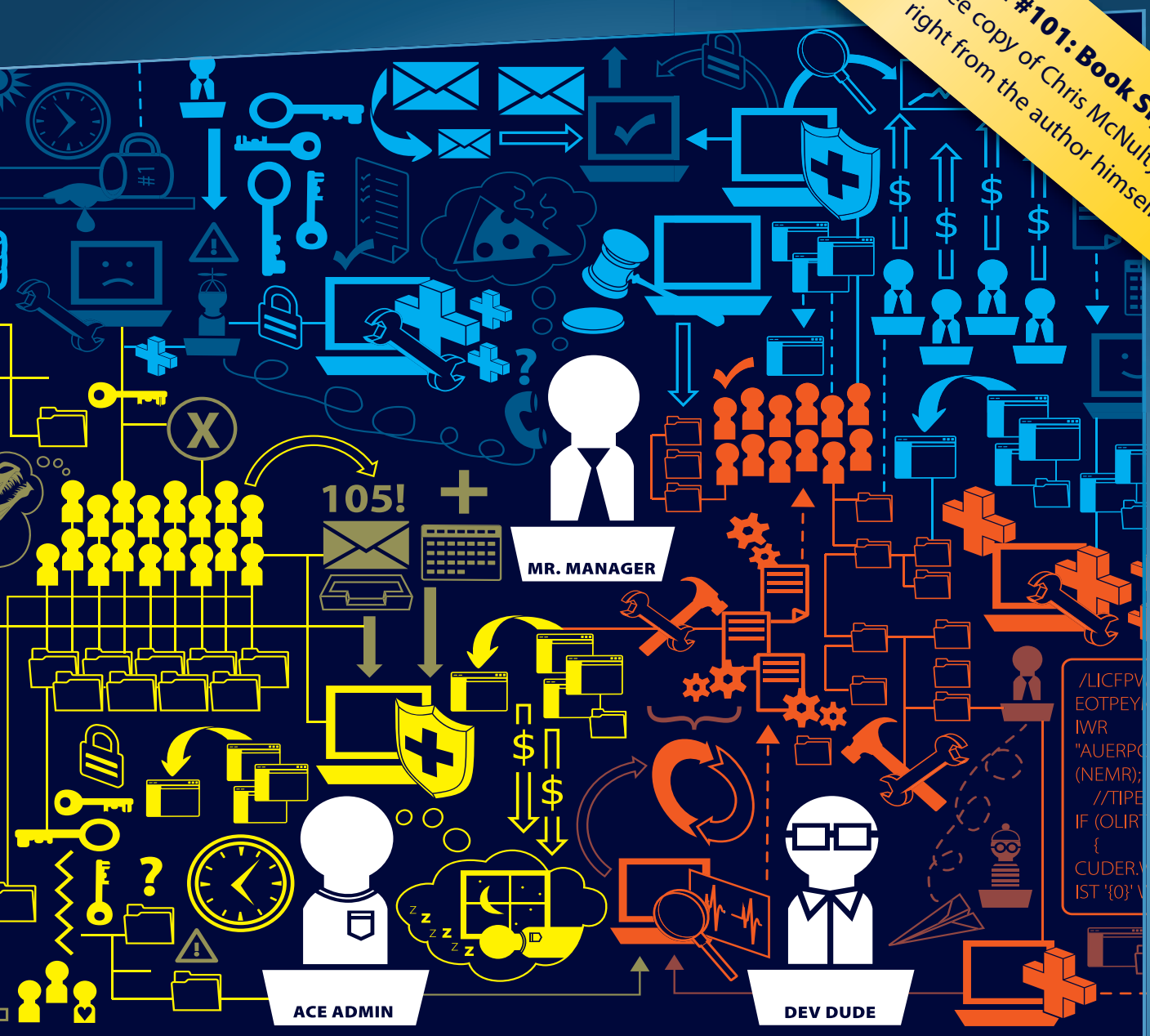
Get a free copy of Chris McNulty's latest, right from the author himself!



Control Your SharePoint Chaos

Manage, Migrate & Customize SharePoint

On Tuesday, July 24th at 6 p.m., join us at SPTechCon in Boston. Author Chris McNulty will be signing his new edition of "SharePoint 2010 Consultant's Handbook: a Practical Field Guide".

Learn how you can control your SharePoint Chaos at ***www.quest.com/ControltheChaos***

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Code Watch

BY LARRY O'BRIEN

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

C and C++ have competition: Go

C and C++ are so widely known and broadly supported that it borders on heresy to suggest that they may not now and forever be the best languages for high-performance systems programming. The Go language, originally designed by Robert Griesemer, Rob Pike and Ken Thompson, dares speak that heresy. The three chief distinguishing characteristics of Go are fast compilation, garbage-collected memory, and concurrency via Communicating Sequential Processes.

Of those, "fast compilation" seems to be the one that causes the most surprise. If you've never been given a "speed up the build" assignment on an industrial-sized C/C++ codebase, know that you have avoided a nightmare corner of the software world. (You really find out who your friends are after you commit a "fix" that takes the build from overnight to "overnight and into the next workday.")

Walter Bright, designer of the D language, has said on his blog that it takes seven passes just to tokenize C++ text! In the same post, he lists non-parallelizable dependencies, preprocessor semantics, overuse of "#include," and the lack of context-independence as other insuperable obstacles. Bright implemented Zortech C++, the first native-code compiler for DOS, more than 20 years ago, and if he's never figured out how to reduce the number of text passes below three, I'm ready to bet that no one else has, either.

Of course, it's doubtful that anyone outside of Google looking at a major infrastructure system with hundreds of compilation units is thinking, "Oh, hey, why don't we try it with a new language and see how that goes?" While it's sensible to explore Go by deploying a pilot project or two, it would be foolish to fully commit to a language with such a short track record and so few developers.

Garbage-collected memory is not a surprising language feature in mainstream development, but relying on it at the systems level is one of Go's bolder design decisions. The current garbage collector in Go is stop-the-world, non-generational and non-compacting, so it's not a state-of-the-art leap forward. On the face of it, there is no easy way to use manual memory management with Go short of linking in a C-based module, so I could definitely see scenarios where that would seem to disqualify Go from consideration.

The concurrency model of Go seems solid, as it is derived from Hoare's "Communicating Sequential Processes," which, as you probably guessed, is a message-passing model. The runtime is charged with handling the details of mapping your code's very large number of conceptually concurrent entities to the relatively few and heavyweight OS-level threads; that removes an entire category of effort. However, although one is encouraged to use channels and "goroutines" (coroutines), Go has given the user the proverbial "enough rope to hang yourself with" when it comes to deadlocks and consistency pitfalls. This seems a little at odds with the relatively aggressive "take it or leave it" garbage-collected memory management. Do I think Go's concurrency model makes manycore development easier? Definitely. Do I think it makes it as easy as, say, Erlang? I don't think so.

Do I think Go's concurrency model makes manycore development easier? Definitely.

Educational resources center on the Go homepage at www.golang.org, but there are also at least two books on the language in print. David Chisnall's "The Go Programming Language Phrasebook" appears to be a pocket reference, but it is much more. It's actually an excellent self-paced tutorial on idiomatic Go programming, and its introductory chapter is the best account of the language's justification and genesis that I've read. I highly recommend it as your first book on the language.

Those who have made more of a commitment to the language may forego Chisnall's book for Mark Summerfield's "Programming in Go: Creating Applications for the 21st Century." This much heftier text is also well written and goes into significantly more depth on the standard libraries, and it presents more complex examples.

Version 1.0 of the language was released in late March, and binary distributions are available for Linux, FreeBSD, OS X and Windows. The language is open source and BSD-licensed. ■

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Analyst View

BY MIKE GILPIN

Mike Gilpin is a vice president and research director at Forrester Research, where he serves Application Development & Delivery Professionals.

Transform your software delivery

Forrester Research recently found that 81% of business leaders surveyed believe that technology is a fundamental element of their business model. Software is increasingly center stage in business' ability to deliver new products or services and to exploit new channels. This relationship has blurred the lines between business and technology innovation; where technology was once a servant, it is now engaged in a more symbiotic partnership with the business. But this increases complexity, uncertainty and urgency—technology must work in business time, requiring increased delivery velocity.

Being center stage is exciting, but also carries high risk. Business expectations are much higher, and your software delivery operation will experience the most powerful forces at work in the business technology world today, including customers that have more choice and voice, empowered (and demanding) users, and real-time business analytics.

Minor tweaks to traditional approaches won't cut it. These traditional approaches sought to optimize technologies, assets and specialized functions in pursuit of efficiency and value. Their supposed efficiency, modeled on mass production, doesn't work when the definition of the problem keeps changing.

The intersection of new business models with new technology is the most fertile ground for new business opportunities, but business technology innovation is not about automating known processes. Innovative teams must explore and observe more than they analyze or design. By delivering working examples early and often, teams enable business and technology sponsors to validate their understanding of the requirements and the solution.

Unfortunately, the reality for many businesses is that change is happening faster than ever before. To keep up, software delivery organizations must adopt a continuous delivery approach, and increase the use of automation and tools. In the context of rapid change, quickly ensuring that everyone on the team knows what other members of the team are doing reduces miscommunication and increases synergies.

Few elements of software delivery are more crucial to a product approach than quality. Expectations of internal apps' quality are also rising as users become more sophisticated. They want their internal apps to work more like consumer apps. Add to this the increased integration and complexity of modern software, and you have the perfect quality storm.

Keeping up with complexity

As software becomes more complex, the velocity of development increases, the importance of quality rises, and separate QA groups become a bottleneck. By encouraging and supporting everyone in understanding their role in quality and promoting shared ownership, application delivery organizations can drive better-quality outcomes.

No successful firm starts with a clean sheet of paper. Architecture takes time to change and often inhibits efforts to increase quality and velocity. Therefore, you must begin building a strategy for your program by assessing your existing architecture, organization and processes.

In doing this assessment, you will likely build or enhance a high-level view of your application portfolio. Geoffrey Moore argues that you should segment applications into systems of record and systems of engagement. You can use this segmentation to evaluate where each application should fit into your overall strategy for change. It's likely that the processes, organization and even technology architecture for systems of record will be different from those for systems of engagement. This means that introducing agility requires you to make architecture part of the change and to support more than one delivery approach.

The new intersection of business models with new technology is the most fertile ground for new business.

Development teams have adopted agile in many organizations, enabling a different way of delivering software to creep into the software value stream. At the same time, business is looking to software for innovation. These two trends are converging, creating an environment that encourages the adoption of a completely new way of looking at the whole flow of software delivery.

But pursuing this opportunity requires application delivery organizations to transform the entire value chain: people, process and technology. Lean thinking provides the basis for this transformation, with techniques and a mental model that focus on increasing value and reducing waste. ▮

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Guest View

BY GIL ZILBERFELD

Gil Zilberfeld is product manager at Typemock, which sells unit-testing software.

Don't waste the opportunity of agile

Software people say that software development is different than any other business. You'll hear the same from marketing, sales and other businesspeople. Even as software has become such a core business operation, it's still considered black magic.

The divide between developers and management has been growing since people started writing code. In the last decade, it seemed that new agile development approaches would bridge it, but now we're seeing signs that the bridge is not so stable. If we're not careful, we'll be right back where we started.

We've been conducting modern business operations for the last half millennium. Software is an infant compared to those traditional business practices. As IT and software have become important to organizations, we tried to implement the same management principles in software groups. Applying the "old" principles to "new" people has not achieved acceptable results.

We saw this in the first early CHAOS reports: Software projects were failing left and right. Features were developed but not used. Specification documents, too heavy to lift, were written for years before writing one line of code. Product releases were late for months and years. Software has become the troublemaker.

As you can expect, businesspeople were not happy. Heaps of money were poured into software projects. The high salaries for top talent didn't transform into company revenue. "What are we paying these guys for?" was thrown around a lot.

"These guys" were also not happy. Managers kept changing their minds about what they wanted. Everyone had an opinion, and developers were pulled in many directions. There was never enough time to make sure the software worked, since the sales guy promised it to the customer last week.

The secret society

We've had guilds before. We still have the equivalent for lawyers, doctors and other professionals. Software people belong to a club that looks a lot like a guild: Developers speak in terms that no one else understands, their expertise is something that is hard to describe to other people, and they charge a lot for their services. To make it more annoying, developers get a kick out of belonging to a secret society.

Managers don't speak developerish. When developers talk about "pipes" and "transactions," it sounds arcane. On the other side of the river, businesspeople haven't translated their motives and needs from business language. The two sides built a convenient smokescreen. Both have lost trust in the other.

Then came agile. Agile was supposed to be the bridge between the developers and business. Agile practices, like stand-ups and retrospectives, increase visibility, expose issues, and allow mitigating issues. The businesspeople saw behind the veil of developer secrecy. That was tough for developers to accept. But there was also shared accountability with the businesspeople, which developers embraced.

After years of delayed milestones and death marches, managers finally got real deadlines. They saw progress in a matter of weeks, not months. It was much better than before.

Scrum emerged as the winner among the agile methodologies. It's very easy to see why: Organizational change comes with management backing. Scrum talked about management ceremonies, so it was easy to get management buy-in. But in some cases, managers kept the developers out of the loop. And that's the problem. How can we have working software without developers?

Scrum-only won't do. Organizations that understand this will be the clear winners.

Developers understood they got shortchanged by Scrum. Some reacted by raising the craftsmanship flag. Craftsmanship doesn't just bring software practices back into the spotlight. In fact, craftspeople see those techniques as the only way to solve real business problems.

The new division between the camps brings us back to our starting point. The business thinks developers are at it again with their secret cult, and developers think the business is at it again with more managerial stuff. Mistrust has made a comeback.

If this continues, businesses that have accepted Scrum will lose to organizations that employ software practices. Software is produced by developers. Scrum-only won't do. Organizations that understand this will be the clear winners.

Agile exposes issues. Here's an important one: If your company doesn't involve developers in your agile implementation, you will lose the business and your developers. Let's not waste the opportunity agile has given us. ■

☐ Find this story at http://sdt.bz/36675

David Rubinstein is editor-in-chief of SD Times.

Industry Watch

BY DAVID RUBINSTEIN

Microsoft on the move

I imagine this is what it must have looked like in the early 1950s, when companies raced to meet the needs and desires of new homeowners with disposable income. Washing machines. Refrigerators. Television sets. Vacuum cleaners. With each rollout, companies would add on additional features to win market share. Companies like General Electric, Hotpoint, Sunbeam, Maytag and more jockeyed for the lion's share of the appliance market.

Today, in the computing market, it's smartphones, tablets, the cloud and, always, the software. And within the span of 10 days, Microsoft has made a bold play in each of those areas.

Microsoft's phone and tablet are built to tie in to the company's ecosystem, and this is what will win the day.

At the recently concluded TechEd, it was the Windows 8 operating system with Metro styling and multi-touch capability. It was the announcement of the company's vision of an operating system in and for the cloud. Afterward, it was Steve Ballmer "Surface-ing" Microsoft's entry into the tablet space, and later that week, a Windows Phone 8 event that debuted what folks are calling amazing voice support (like Siri, only better!) and better hardware.

It's almost as if Microsoft has the track star Carl Lewis running the last leg of the race, making up a huge amount of ground before going on to win.

The Twitterverse was blowing up with mostly pro-Microsoft comments, though more than a couple noted that Microsoft's Surface tablet announcement mimicked the way Apple would do a rollout of that type. Oh, and it crashed, too.

The most impressive aspect of this media and product blitz is that Microsoft is firing at all markets at once. And that's the power of Microsoft (and its money). Most companies can only focus on a phone, a tablet or both, if the OS is the same. Microsoft is aiming at those markets, but also talking about winning enterprise computing in the cloud.

At TechEd, I was impressed with Windows 8 running on a Samsung tablet. The touch motions were fluid, and the tiling made desktop organization sensible by dedicating more space to things that are more important to me.

Will it be enough for Microsoft to overtake Apple and Google in the smartphone and tablet markets? There's one ace in the hole I haven't yet discussed. Microsoft's phone and tablet are built to tie in to the company's ecosystem of servers, databases and cloud infrastructure, and this is what will win the day.

Right now, iPhones and iPads are popular because they deliver the Web and all the apps consumers want: newspapers, magazines, sports, games, weather, travel reviews, restaurant reservations and so much more. Windows phones and tablets will have all of these too, in short order. Apple users also can access Office 365 productivity apps via the cloud, but with Microsoft using Windows 8 (or some variation) across all its platforms, the experience between working on a Web app, a document, or a data app from the back end will be seamless. For developers, it means having the ability to work in tools and languages you know to reach each platform.

And that's something that Apple can't even begin to compete with. Companies will still tolerate their workers having iPhones, but they will insist they have Windows devices. ■

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Events Calendar

DATE	SHOW	CITY	SPONSOR	LINK
July 13-15	**ISVCon**	Reno, Nev.	Assoc. of Software Professionals	www.isvcon.org
July 16-20	**OSCON**	Portland, Ore.	O'Reilly Media	www.oscon.com
July 23-24	**DevCon5 Mobile Developer Conf.**	New York	Technology Marketing Corp.	html5.tmcnet.com/conference/newyork
August 5-9	**ACM SIGGRAPH**	Los Angeles	ACM SIGGRAPH	s2012.siggraph.org
August 6-7	**Rich Internet Application Conf.**	Silver Spring, Md.	AboutWeb	www.riacon.com
August 13-17	**Agile 2012**	Dallas	Agile Alliance	agile2012.agilealliance.org
August 27-30	**VMworld**	San Francisco	VMware	www.vmworld.com
Sept. 10-12	**Cloud Connect Chicago**	Chicago	UBM TechWeb	www.cloudconnectevent.com/chicago
Sept. 17-20	**Storage Developer Conf.**	Santa Clara	SNIA	www.snia.org/events/storage-developer2012

For a more complete calendar of U.S. software development events, see www.sdtimes.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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Course Listing

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Welcome to WPDevCon:
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Dear Windows Phone developer,

Windows Phone has hit the market, and with Mango, the platform is getting traction. Come join me, and the best and brightest stars in the Windows Phone universe, at WPDevCon. We'll learn, we'll network, we'll seize the opportunities that Windows Phone represents.

WPDevCon: The Windows Phone Developer Conference is focused 100% on developing Windows Phone apps. The three-day conference is produced by BZ Media, publishers of SD Times, the leading magazine for the software development industry. There's no doubt that WPDevCon is the most info-packed, most practical, most gotta-attend Windows Phone-specific conference in the world.

At WPDevCon, you can choose from dozens of workshops and technical classes at all levels, from overview to intermediate, from advanced to expert. Come and learn what fits your needs, as our sessions are organized into three subject areas suitable for you and everyone on your team:

WP Essentials: These technical classes and workshops are for all Windows Phone developers, and cover all programming topics.

WP Enterprise: These technical sessions cover topics specific to building and managing apps for employees, business customers and partners, such as back-end integration with corporate applications and the Cloud.

WP Marketing: These business-oriented sessions cover everything you need to know about the Windows Phone marketplace, including app marketing and distribution.

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See you there!

Alan Zeichick
Conference Chairman

Alan Zeichick
Conference Chairman

Contents

Event Schedule 3
Special Events.....4
Workshops 5
Technical Classes 7
Faculty.....17
Getting Approval.....22
Hotel & Travel.....23
Registration 24

Over **80,000** apps are already in the Windows Phone Marketplace

340 apps added each day to the Windows Phone Marketplace

40 million Windows Phones will be sold in 2012 — Digitimes Research

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Event Schedule

Sunday, October 21

4:00 pm – 7:00 pm	Registration Open

Monday, October 22

7:30 am – 7:00 pm	Registration Open
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 10:00 am	Workshop
10:00 am – 10:15 am	Coffee Break
10:15 am – 12:00 pm	Workshop
12:00 pm – 1:00 pm	Lunch
1:15 pm – 2:15 pm	Microsoft Keynote
2:30 pm – 3:45 pm	Technical Classes
3:45 pm – 4:00 pm	Coffee Break
4:00 pm – 5:15 pm	Technical Classes
5:30 pm – 7:00 pm	**Lightning Talks**

Tuesday, October 23

7:30 am – 7:00 pm	Registration Open
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 9:45 am	Technical Classes
9:45 am – 10:00 am	Coffee Break
10:00 am – 11:00 am	Keynote
11:00 am – 12:15 pm	Technical Classes
12:15 pm – 1:15 pm	Lunch
1:15 pm – 2:30 pm	Technical Classes
2:30 pm – 6:30 pm	**Exhibit Hall Open**
2:30 pm – 3:15 pm	**Coffee, Ice Cream**
3:15 pm – 3:45 pm	Sponsored Sessions
4:00 pm – 5:15 pm	Technical Classes
5:15 pm – 6:45 pm	**Networking Reception**

Wednesday, October 24

7:30 am – 4:00 pm	Registration Open
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 9:45 am	Technical Classes
10:00 am – 11:00 am	Keynote
11:00 am – 3:00 pm	**Exhibit Hall Open**
11:00 am – 11:30 am	**Coffee Break**
11:30 am – 12:45 pm	Technical Classes
12:45 pm – 1:45 pm	Lunch
1:45 pm – 2:30 pm	**Dessert & Winner's Circle in Exhibit Hall**
2:30 pm – 3:45 pm	Technical Classes
3:45 pm – 4:00 pm	Coffee Break
4:00 pm – 5:15 pm	Technical Classes
5:15 pm	Conference Closes

Exhibit Hall Hours

Tuesday
2:30 pm – 6:30 pm

Wednesday
11:00 am – 3:00 pm

"Microsoft's Windows Phone Marketplace now has more than 80,000 mobile apps, with new ones being added at a rate of 340 apps per day, according to a technology blog."

—CNET News, Apr 4, 2012

WP DevCon
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www.WPDevCon.com

Special Events

Monday, October 22

1:15 pm – 2:15 pm
Microsoft Keynote
More information coming soon! Check website for updates.

5:30 pm – 7:00 pm
Lightning Talks
Learn something new in a handful of short, targeted talks PLUS names will be drawn for free giveaways!

Tuesday, October 23

10:00 am – 11:00 am
Keynote
More information coming soon! Check website for updates.

2:30 pm – 6:30 pm
Exhibit Hall Open
Come explore the latest in Windows Phone developer resources in the Exhibit Hall.

2:30 pm – 3:15 pm
Coffee, Ice Cream

5:15 pm – 6:45 pm
Networking Reception
Mix and mingle with fellow developers in a casual atmosphere. Make friends and enjoy delicious food and beverages.

Wednesday, October 24

10:00 am – 11:00 am
Keynote
More information coming soon! Check website for updates.

11:00 am – 3:00 pm
Exhibit Hall Open
Come visit the growing and evolving network of technical experts in the Exhibit Hall.

1:45 pm – 2:30 pm
Dessert & Winner's Circle in Exhibit Hall
Delicious treats and chances to win fabulous prizes, courtesy of BZ Media and WPDevCon sponsors.

Learn from and network with Windows Phone gurus!

Workshops

Overview – Intermediate

Register Early = Save Big!

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Topic Areas

WP Essentials: These technical classes and workshops are for all Windows Phone developers, and cover all programming topics.

WP Enterprise: These technical sessions cover topics specific to building and managing apps for employees, business customers and partners, such as back-end integration with corporate applications and the Cloud.

WP Marketing: These business-oriented sessions cover everything you need to know about the Windows Phone marketplace, including app marketing and distribution.

Session Levels

Overview: No previous knowledge of the class's subject is required, and the session will be a high-level introduction of the topic.

Intermediate: These broad technology sessions emphasize capabilities and how things work. As appropriate, the instructor will show examples or code.

Advanced: These sessions teach attendees how to implement a solution. As appropriate, the instructor will include detailed samples or code.

CODE This icon indicates code will be shown in a session.

Overview

Get Started with Windows Phone Development Using Silverlight

Shawn Wildermuth

Writing apps for a phone was never so easy. If you have been tempted to write for the iPhone or the Android phone, you don't have to. With Silverlight, you can build applications for the Windows Phone as easy as you can build a Web widget. This workshop will focus on getting started with building an application for the phone!

Level: Overview **Topic Area: WP Essentials**

Windows Phone 7 Programming for the iOS Programmer

Carlo Toribio

This workshop is an introduction to Windows Phone 7 development. We will begin with a brief overview of C# and its most important similarities and differences with Objective-C. We will then proceed to create a user interface with some animations utilizing XAML, keeping in mind the metro style design using the Panorama and Pivot controls to give the application the WP7 standard look and feel. We will then dive into the MVVM (Model View ViewModel) development pattern, which will be used for the development of the sample application.

Throughout the workshop and development of our application, we will use and discuss the most common frameworks used for WP7 development. The workshop will conclude with a fully developed and usable WP7 application, with simple (yet fully coded and usable) C# classes, utilizing the most common features of the language and common WP7 frameworks. We will also keep in mind Microsoft's requirements to upload applications to the WP7 Marketplace.

By the end of this workshop, you will be able to:

- Design Windows Phone 7 Metro style interfaces using XAML
- Tell the differences between XAML and nib file design
- Develop basic C# and use its most important features
- Tell the basic differences between C# and Objective-C
- Develop Windows Phone 7 applications using the MVVM (Model View ViewModel) development pattern
- Tell the differences between MVVM and MVC patterns
- Use the most common WP7 development libraries
- Bing maps services (address search, using the GPS)
- Using other WCF services in the phone
- Saving the state of the app when it's closed
- Storing/reading local data using data contracts

Prerequisites: Knowledge of Objective-C and iOS is assumed for this class. However, no Windows Phone 7 or C# development knowledge is required.

Side note: The workshop will include building simple samples in Visual Studio 2010. Attendees are invited to build and run along with the talk (all projects and slides will be available for download prior to the beginning of the session), but this is not a requirement.

Level: Overview **Topic Area: WP Essentials**

Intermediate

Build SharePoint and Windows Phone 7 Applications CODE

Darrin Bishop

SharePoint is now a key component in many enterprise organizations, providing data and services to the greater organization. Windows Phone 7 provides the platform to extend the reach of SharePoint data and services. In this deep dive, we will take a detailed look at how you can integrate your SharePoint 2010 data and services with your Windows Phone 7 application.

You will be expected to show up with a laptop, Windows Phone SDK and (optionally) SharePoint. You will follow along as we take a dive into various options and challenges associated with SharePoint authentication and data/service access and Push Notifications. The audience will be expected to have basic knowledge of Windows Phone 7 development techniques as well as some knowledge of SharePoint. The format of this workshop will be some lecture and

discussion coupled with hands-on examples. If your laptop does not include SharePoint, we will provide access to SharePoint data via a wireless connection.

Level: Intermediate **Topic Area: WP Enterprise**

Expression Blend for the Phone Developer CODE

Walt Ritscher

Expression Blend is a fabulous tool for creating Silverlight components and applications. It boasts the most powerful Silverlight graphics editor among the available Microsoft tools, and it handles the trickiest UI design with ease. But many developers are still hesitant to use Blend, perhaps due to its unfamiliar IDE metaphors, or possibly because they aren't aware of the potent tools hidden within.

This hands-on workshop takes a grand tour of Blend and shows you which tools are indispensable for crafting great UIs. Among these tools are the new Sketchflow prototyping tool, the interactive animation tools, and the enhanced Assets panel. In addition, you'll see how Expression Blend adds new configurable behaviors, and learn about the enhanced support for data-binding and the MVVM pattern.

This is hands-on, so you'll have a chance to try these tools for yourself. This workshop is loaded with tidbits that will speed up your UI creation, and a few secrets that will drastically reduce the amount of XAML you'll need to write.

Level: Intermediate **Topic Area: WP Essentials**

Get Started with Windows Phone Development CODE

Nick Landry

This workshop is your fast track into the new, wonderful world of Windows Phone development. We'll perform a quick lap around Microsoft Visual Studio 2010 and the Windows Phones SDK, build our first app Expression Blend, and debug it with the Windows Phone Emulator. We'll then explore the various Windows Phone SDK services and features, such as touch gestures, accelerometers, rich media, notifications, location and more. We'll also explore various toolkits and frameworks available to you for free to augment your development experience and productivity. It's time to drop that "other" phone and pick up a phone you will actually enjoy coding for. If you've waited this long to jump on board the mobility bandwagon, wait no more: This is the mobile platform you always wanted!

Prerequisites: Basics of .NET Development, Visual Studio 2010, Intermediate C#.

Level: Intermediate **Topic Area: WP Essentials**

Produce Better Apps by "Thinking Mobile" CODE

Matt Lacey

Developing for Windows Phone is different from developing for the desktop or Web. It's common to have a basic understanding of this, but what does it really mean? And how can the knowledge and appreciation of those differences be directly applied to the apps we're making?

There are six key ways that developing for the phone is different. In this session, we'll cover all of them. We'll explore the details, and what understanding and applying knowledge of each of these differences means for us as developers. We'll then look at how we can apply this knowledge to create better Windows Phone apps to give an experience specifically tailored for the platform.

Whatever your level of experience with Windows Phone development, this session will challenge the way you think about mobile development and provide useful techniques to remember the differences.

This workshop is an excellent way to start the conference, and by helping you to "think mobile," it will enable you to get more from the other sessions.

Level: Intermediate **Topic Area: WP Essentials**

Advanced

Deep-Dive Data-Access Workshop CODE

Eric Neff

All mobile applications need to read and write data. This advanced hands-on session will show you how to read data from Internet sources, generate proxies for fast access to popular Web services, and create and access SQL Server Compact Databases. In each technology demonstration, you will see the code and a demonstration, and then step through the source to see what is occurring and why.

You will learn how to create data-rich apps with zero infrastructure requirements. By utilizing publicly available services and publishing to social media, you can create a mobile application without the need for servers and the associated security, support and maintenance. This session will also cover the retrieval and parsing of SOAP Messages, WCF XML Services, Azure Cloud Storage, JSON, OData and Web Scraping, utilizing open-source and freely available tools.

There are options for storage on the device as well. Windows Phone 7 provides built-in mechanisms for simple secure data storage. Not only can you save you user preferences, but you can also use this as a data store. Need more horsepower? You'll see demonstrations with SQL Server Compact Edition with LinqToSql for fast, easy relational databases. Already have a website and want to take it mobile? There are tools to bridge the gap and allow your Web code to access these sources natively. Finally, we'll look at a way of using your Web code and the emerging HTML5 standard for maximum reuse in a minimum amount of time.

Attendees should bring their Windows laptops with Microsoft Visual Studio 2010, Microsoft Windows Phone SDK 7.1, and Microsoft SQL Server Compact installed.

Level: Advanced **Topic Area: WP Essentials**

Technical Classes

Overview – Intermediate

Registering 3 or more?
See last page for group discounts!

WP DevCon
The Windows Phone Developer Conference

Overview

Build the Modern Mobile Enterprise with HTML5 and the Cloud

Chris Love

Bring Your Own Device, Consumerized IT, Mobile Device Management, Mobile Application Management and many other buzzwords are filling the world of modern enterprises today. They are all issues traditional Enterprise IT departments are struggling to answer, and traditional IT solutions for mobility seem to fall short of a true answer.

Fortunately, by leveraging HTML5, cloud-based technologies and a willingness to rethink current methodologies and techniques can give enterprises the advantage they need to make their line-of-business applications available to their employees in a cost-effective, secure way. In this session, we will examine various topics related to enterprise mobility and review examples that can solve common problems.

Level: Overview **Topic Area: WP Enterprise**

The Top 10 Ways to Market and Generate Revenue for Your Windows Phone App

Chris Woodruff

This session will present tips and teach some lessons learned from the instructor's first year as a Windows Phone 7 app developer. Achieving consumer awareness and achieving longer sales durations for your Windows Phone app requires a lot of organization and some strategic planning. This session will show you how to incorporate marketing and business savvy into your design and development process, giving your app the best possible chance of succeeding in the Windows Phone Marketplace. In this session, you will learn how to:

- Analyze your target audience
- Research your competitors
- Select the best icon and title for your application
- Build a great app
- And much more!

Level: Overview **Topic Area: WP Marketing**

"Windows Phone is arguably the best smartphone platform for first-time users. It's the least complicated system, and has a lot of built-in features that would be apps on other platforms. "

—Gottabemobile.com, Apr 6, 2012

Intermediate

A Developer's Guide to Windows Phone App Marketing and Monetization

Alan Mendelevich

Releasing a great Windows Phone app or game is an important step, but developers tend to focus all attention on ensuring top quality, richness, and a great user experience. Unfortunately, most of the times, having a superb app is not enough to guarantee its success in the marketplace.

Developers have tried various methods to increase an app's popularity and income, and some have worked while others didn't. There are a lot of breadcrumbs of information about individual cases spread over the Internet and we try to collect them in this session. Learn techniques used by other app publishers to maximize exposure and revenue. We will cover:

Monetization strategy selection based on the nature of the app, publisher's location and target markets.

When to go the ad-supported route vs. paid; how to price paid apps, and global accessibility of paid apps.

Tips and tricks to improve your app's chances at getting maximum exposure (both free and paid).

Level: Intermediate **Topic Area: WP Marketing**

Accessing Real-Time Data Feeds to Deliver Real-Time Information at a Glance CODE

Michael Lehman

Your users demand apps that deliver crucial, real-time information at a glance. Meanwhile, every day you wake up to a rising tide of new data feeds and APIs. Wouldn't it be great if you had practical, real-world techniques that could simplify connecting to APIs, help process the data, and make it easy to provide simple, elegant user experiences?

Step by step, using an application shell and customizable code snippets, you'll build WeatherWatcher, an app that uses the free WorldWeatherOnline.com API to display weather conditions for up to six locations in real time. Once you've built WeatherWatcher, we'll explore how to customize and reuse the shell and snippets to turbocharge the way you build your apps that connect to and process your favorite data.

Bring your laptop with the Windows Phone Tools installed and power up your toolbox.

Level: Intermediate **Topic Area: WP Essentials**

Technical Classes

Intermediate

WP DevCon
The Windows Phone Developer Conference

Background Agents: Best Practices CODE

Shawn Wildermuth

With Mango's inclusion of background agents, you can now have code running when your app isn't in the foreground, but it comes with some limitations. In this talk, you will see how to get the best out of using Background Agents, including Periodic Agents and Resource Intensive Agents.

Level: Intermediate **Topic Area: WP Essentials**

Build Reusable Components for Windows 8, Silverlight 5, WPF and Windows Phone CODE

Colin Melia

Enterprises have invested in Silverlight and WPF for rich desktop-based applications. With Silverlight supported through 2021, and the introduction of Windows 8 metro-style apps and the use of Silverlight on Windows Phone, there's value in architecting applications in such a way that you don't have to rebuild core components for each platform. Join this class for practical advice on how to use MVVM, the portable library and other strategies to build reusable components.

Level: Intermediate **Topic Area: WP Essentials**

Create SharePoint Windows Phone 7 Applications CODE

Darrin Bishop

Organizations are increasingly extending SharePoint with custom mission-critical applications to solve business needs. This developer-centric session will look at how you can start to extend your reach by creating SharePoint-based Windows Phone 7 applications. You will learn how to set up a SharePoint and Windows Phone 7 development environment, and authenticate SharePoint and integrate SharePoint data and services into Windows Phone 7 applications. We will finish with a look at using Push Notifications Services and SharePoint.

Level: Intermediate **Topic Area: WP Enterprise**

Customizing the Windows Phone Experience CODE

Michael Samarin

One of the benefits of being a Windows Phone developer is Metro UI. Standardization of user interface always brings a lot of time saving when you can think about your application structure within predefined design language paradigms. However, sooner or later, we are facing challenges that are simply impossible to solve with standard platform components.

The goal of this session is helping you to identify such situations, and guiding with code examples through the following scenarios:

- When your only option is to create totally custom components. You will get guidance on how to make reusable custom controls, what are the pros and cons of this decision, and what are those underwater stones you should be aware of.
- Even when you think that your only option is to make custom controls, learn how effective a creative use of XAML, animation effects and Expression Blend can be.
- Learn when using existing frameworks, such as Silverlight Toolkit and WP7Contrib, will save you a lot of time and when they will not.

Level: Intermediate **Topic Area: WP Essentials**

Design for WP – It Doesn't Have to Look and Feel Like a Programmer Designed It! CODE

Chris Nicol

Even with Microsoft providing a design guide for developers, there are still a lot of apps that make it into the Marketplace that break many design principles. In this session, we will cover a number of important design principles that are not just about making your app look good, but are also about ensuring you provide the user with the best experience possible. We will also review tools like Visual Studio, Photoshop and Blend, and show some tips and tricks to help you design the best Metro apps possible.

Detailed Topics:

- Metro Design
- General Design Principles
- Creating a Great User Experience
- Telling a Story With Your App
- Process for Success
- Common Mistakes
- Blend Tips and Tricks
- XAML Styles – managing and architecture

Level: Intermediate **Topic Area: WP Essentials**

Five Points of Focus for Building a Memorable App CODE

Kelly White

While the Windows Phone marketplace is much smaller than what is found on either an iPhone or Android device, developers are finding that discoverability is still a major problem. Developers are continuing to ask the universal question of how do we best surface our apps, and thereby increase their visibility and profitability?

The obvious answer is to get the marketplace team to highlight an app as a featured application. The next best answer is for everyone in your user base to recommend the app to their friends. Ultimately, the only way either of these can happen is if you build an application with a memorable and compelling user experience.

This session will highlight five key areas that should be focused on to make your app memorable, pin-able, and something a user finds he or she cannot live without. We'll look at how other applications have demonstrated these features, and we'll walk through coding examples that illustrate the same.

Level: Intermediate **Topic Area: WP Essentials**

From a New Windows Phone Project to the Marketplace CODE

Elad Shaham

The list of things you need to do in order to create a new Windows Phone project, implement its business logic, and upload it to the Marketplace, may sound intimidating. The truth of the matter is, it couldn't be easier. Develop, test, upload—that's all there is to it.

In this session, we will create a simple Windows Phone application, make sure it passes certification, and upload it to the Windows Phone marketplace. You don't have to be a super developer to create a Windows Phone app; in fact, some of the best Windows Phone apps are created by students. But developing a GOOD app takes a certain amount of effort.

We need to make our app stand out by creating a good user experience, which follows the UI guidelines, and make sure it works flawlessly. Luckily, the certification of all apps helps us in the process of creating better apps, since we need to take care of the small details. You will be shown how to leverage the SDK's built-in tools to make your app certification-ready.

Level: Intermediate
Topic Area: WP Essentials

IntegrateSharePoint Social Features into Your Windows Phone 7 Applications CODE

Darrin Bishop

In this session, you will learn how to create Windows Phone 7 applications that use the social capabilities SharePoint has to offer, including people search, user profile data, activity feeds, and colleagues. You will also learn how to provide push notifications in Windows Phone 7 applications that alert users when SharePoint list data or social data has changed. Finally, you will learn how to use external social websites like Twitter and Facebook to complement your social functionality and broaden the reach of your application to the world.

Level: Intermediate **Topic Area: WP Enterprise**

Metro, Metro, Metro! CODE

Sam Basu

Metro is a design language, and it is starting to be very important for Microsoft in terms of product differentiation. Starting in 2012, your Windows Phone, Windows 8 PC and Xbox all start looking very similar, but how? The power of Metro! You can always read up on Metro (fast and fluid, chromeless and content-first) but ever wonder what's the magic behind the words? What makes Metro so simple, but easy to get wrong?

Come join this class and take a deep dive into the crux of Metro. Where is the origin, what is the meaning and the science behind the simplicity? Why is it important for Windows Phone developers to understand design and the core building blocks of Metro? How can we know we are doing it right? We'll answer these questions and have other discussions and resources to get Metro right for the developer. Attendees should walk away with a solid understanding of Metro and how to apply it in their next app.

Level: Intermediate **Topic Area: WP Essentials**

Mobile Exception Monitoring and Analytics in Visual Studio 11 CODE

Sebastian Holst

Microsoft disclosed that Visual Studio Dev 11 will include an application analytics and incident monitoring solution. While the functionality works across all .NET frameworks, it has specific support for WP7 and Windows Azure that provides a unique view into the "whole mobile application," not just the bits running locally on any given device. Further, the entire monitoring and reporting solution can be deployed inside an enterprise (or privately hosted) with no direct dependency on external marketplaces or services.

This session will walk through the components included inside Visual Studio Dev 11, and demonstrate the steps required to instrument distributed mobile applications and integrate the resulting application analytics into your development process, relying solely on the automated, rule-driven work-item generation included with Visual Studio Team Foundation Server.

Attendees will:

- Learn how to instrument WP7 applications to capture and report on exceptions in near real-time (in seconds, not minutes, hours or days).
- Define basic rules inside TFS to intelligently automate the creation of TFS work items based upon production incidents.
- Understand how to correlate exceptions across mobile and cloud platforms to better manage quality across applications with components running on multiple surfaces and runtimes.

Level: Intermediate **Topic Area: WP Enterprise**

Technical Classes

Intermediate

WP DevCon
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Monetization: Past Results and New Strategies CODE

Kelly White

Developing mobile applications just for the sake of "developing an app" can be fun and is very rewarding. However, finding spare time in your busy schedule to take on another hobby can be difficult, if not impossible. The most compelling thing about building applications for the Windows Phone is that your efforts can be monetized, thereby justifying further effort and time spent. Ultimately, you can find your efforts have led to the possibility of being an "indie" game/app developer as your full-time job. However, none of this is possible unless you can monetize your efforts.

In this session, we'll talk about the different monetization strategies that are available in Windows Phone. We'll talk about ad-based revenue strategies and walk through a demo of how to build ads into your app. We'll talk about what you should do, what you shouldn't do, and best practices.

We'll also talk about the Trial API, run through some statistics, and show you how to utilize it in your applications. Finally, the instructor will share the numbers and financials from his more popular Windows Phone games and applications. This class will also show trends, talk about lessons learned, and have a Q&A session.

Level: Intermediate **Topic Area: WP Essentials, WP Marketing**

Practical Windows Phone + Windows Azure CODE

Colin Melia

Windows Phone application users are much more likely to keep engaging with an application if it makes use of updating Live Tiles. This is just one reason why you should consider a great cloud platform for working with your Windows Phone application. In this session, you gain actionable insights into great features of both platforms and learn how to bring them together.

Level: Intermediate **Topic Area: WP Essentials**

Testing WP7 Applications CODE

Lino Tadros

Windows Phone 7 applications are the new kids on the block, and not surprisingly, tools for testing these applications are in their infancy. This session will give you ideas on how to perform functional and unit tests on the Windows Phone 7 platform. Explore the NuGet packages that are available to you to enable functional testing of WP apps, as well as other testing frameworks and tools that are suitable for WP7 and WP8 testing. We'll show you how to get started testing and to deal with the common gotchas.

Level: Intermediate **Topic Area: WP Enterprise**

Top 10 Mistakes Windows Phone Developers Make CODE

Shawn Wildermuth

When building an application for the Windows Phone, there is much to consider to make your application successful. In this talk, the instructor, author of "Essential Windows Phone 7.5: Application Development with Silverlight," will walk you through the top 10 problems seen in Windows Phone applications.

Level: Intermediate **Topic Area: WP Essentials**

Using the Microsoft Push Notifications Service in Your Windows Phone Apps and Games CODE

Chris Williams

Windows Phone developers, if you aren't using notifications in your apps and games, why not? You can bet your competition is. This session introduces the Microsoft Push Notifications Service and explains how it works and how to interact with it to create Tile, Toast and Raw (in-app) updates. Sample code will be provided for all demos.

Level: Intermediate Topic Area: WP Essentials

Windows Phone for the Micro-ISV CODE

Kelly White

A Micro-ISV is an independent software vendor with fewer than 10 or even just one software developer. While the term has come to mean more than just a "one-man shop," any ISV with more than 10 employees is generally not considered a Micro-ISV. So that begs the question: Are you a Micro-ISV?

This session will cover what Windows Phone can do for you as a Micro-ISV. The instructor will use real-world experience of using Windows Phone as a consumer while developing Windows Phone applications for clients. If you do not personally use Windows Phone in an enterprise environment, you still need to be ready to show clients how they can take advantage of and use it in theirs.

Code will be shown as we walk through a scenario of building an application for a potential client.

Level: Intermediate **Topic Area: WP Enterprise**

Work with Audio on Windows Phone CODE
Michael Samarin

There are several common scenarios and use cases when you are dealing with audio on Windows Phone. This session will guide you with code samples through such cases as:

- Generating custom sounds on Windows Phone
- Recording audio
- Working with background audio agents, streaming and playing music in the background
- Understanding ringtones
- Working with media library, accessing music metadata, playlist-based media

Level: Intermediate **Topic Area: WP Essentials**

XNA Part 1: Build a Scrolling Tile Engine with XNA on Windows Phone CODE
Chris Williams

This Windows Phone session shows basic techniques for creating games with XNA that use a scrolling tiled map. Displaying sprites (2D graphics) is also covered. This is part one of a two-part series, and sets the foundation for "Building a Pathfinding System Using Waypoints with XNA on WP7."

Level: Intermediate **Topic Area: WP Essentials**

XNA Part 2: Build a Pathfinding System Using Waypoints with XNA on Windows Phone CODE
Chris Williams

This Windows Phone session builds on the session "Building a Scrolling Tile Engine with XNA on Windows Phone." Attend and learn a degree of artificial intelligence for the creatures in your game by creating a system of waypoints they can use to navigate the terrain on your map.

Level: Intermediate **Topic Area: WP Essentials**

Advanced

Add Location Intelligence to Your Windows Phone Apps with Bing Maps CODE
Nick Landry

This session will not teach you why we are on Earth, but it will teach you how to find out where we are on it. Find the user? Find the phone. Thanks to standard built-in Location Services and hybrid positioning hardware, every Windows Phone knows where it is.

In this session, you will learn how to build a truly "smart" phone application by adding Location Intelligence Services (LIS) to it. Using Microsoft Visual Studio 2010, the Windows Phones SDK and Bing Maps SDK, you will learn how to locate the device in the world using the phone GPS, other Location Services, and display maps, and manipulate them with touch gestures, geocode addresses into lat/long pairs, perform proximity searches against various geospatial data stores and display the results on map, and more.

We'll also discuss the various mapping technologies, SDKs and APIs in the Microsoft world, and explore how they apply within a distributed architecture that integrates Windows Phones. Location Intelligence is a natural extension of mobility and you cannot ignore it, so why would you ignore this session?

Prerequisites: Basics of Windows Phone Development, Visual Studio 2010, WP SDK 7.1, Intermediate C#, Calling REST Services from .NET.

Level: Advanced **Topic Area: WP Essentials**

Advanced Data Visualization in Windows Phone Applications CODE
Nick Landry

Big data. Small phones. Such is the world we live in. In this talk, you will learn how to implement rich data visualizations into your Windows Phone mobile applications. When building mobile applications, the amount of space, or the form factor, to communicate to users is much smaller than a typical desktop application, so being able to effectively tell the story through larger amounts of data in charts, gauges, maps, timelines and other data visualization paradigms is more important than ever.

Through dynamic and insightful live data demos, you will see these techniques in action and discover all the tools available at your disposal to build rich data visualization dashboards in your own Windows Phone applications.

Prerequisites: Basics of Windows Phone Development, Visual Studio 2010, WP SDK 7.1, Intermediate C#, Database Access in .NET, Calling REST Services from .NET.

Level: Advanced **Topic Area: WP Essentials**

Advanced Metro: Design a Better Interface for Your WP7 App – Part I CODE
Lincoln Anderson

An app is only as good as its user experience. In this session, we'll review important Metro design principles as they pertain to Windows Phone 7 application design, and how your app can benefit from following them. Using real-world case studies, we'll demonstrate common design mistakes and recommend practical, beautiful solutions. Leveraging Metro guidelines and code snippets, we'll demonstrate how to put these solutions into effect for a clearer, more usable, and more Metro Windows Phone 7 app.

Level: Advanced **Topic Area: WP Essentials**

Advanced Metro: Metro Design Clinic – Part II CODE

Lincoln Anderson

In this session, we will build on the topics covered in "Advanced Metro: Designing a Better Interface for Your WP7 App - Part I." However, part of this session will be examining actual Metro apps built by the attendees' organizations, and discussing their design issues.

Note: Attendees will be invited to submit apps in advance.

Level: Advanced Topic Area: WP Essentials

Advanced Socket Programming CODE

Jim McKeeth

The HTTP protocol is more ubiquitous than Kevin Bacon, but do you really understand how it works? This session dissects the HTTP protocol for practical gain with resuming downloads, downloading specific parts of files, dividing downloads over multiple servers, uploading files, parsing cookies, and more - all from your Windows Phone 7 application.

Bandwidth is precious and connectivity is spotty on mobile devices. By implementing resumeable downloads, you can be sure you download the entire file without the need to redownload part of it after the connection is dropped. Save your users' bandwidth and make your application more responsive!

What if you only need a part of a huge file? Like one file out of the middle of a multi-gigabyte ZIP file? Learn how to extract just part of a file via the HTTP protocol and leave the rest on the server. Maybe a file is available from multiple file mirrors and you want to download it the quickest way possible. Your 4G LTE bandwidth may actually be faster than the throttle on the download server. By dividing your download across multiple servers and balancing it to favor the faster servers, you'll be done downloading before you know it.

After attending this session, you will not only understand how the HTTP protocol makes all of this and more possible, but you will also have code ready to use in your applications. This is an advanced session, and attendees must be comfortable with .NET, Silverlight or WP7 development.

Level: Advanced Topic Area: WP Essentials

Connect the Dots Between Windows Azure and Windows Phone CODE

Sam Basu

Windows Azure and Windows Phone are two rather happening platforms out of Redmond. In this talk, we take a look at how Azure and Windows Phones could play together, and in general, why cloud support is needed for most well-designed mobile solutions.

We'll take a deep dive into some code and demos on how to get Push Notifications working from Azure. We'll also cover what OData is and why it is important with SQL Azure and cross-platform mobile applications, and end with the Azure Toolkits for WP7/iOS/Android, including how to set up Forms Authentication in Azure tables or use ACS. We'll look at overall cloud-based mobile solutions, as well as individual pieces. Oh yes, there will be plenty of real-world code. Attendees should be able to walk away with a solid understanding on how to leverage cloud resources in mobile solutions, especially Windows Phone.

Level: Advanced Topic Area: WP Essentials

Create a Game Lobby for Your Windows Phone 7 Game CODE

Michael Cummings

In today's game market, social games can gain popularity with extraordinary speed. For a mobile social game it's important that the game provides mechanisms for players to interact with other players.

Attendees will explore how to create a game lobby for their games. The lobby will allow the player to browse a list of other players waiting to play. The lobby will also provide private matchups through the use of invitations. Finally, attendees will see how to use notifications to let the payer know that they have a matchup and the game is about to begin! To bring this all together, the lobby will be deployed to a Windows Azure account where games can then use the service, regardless of what platform the game is running on.

Level: Advanced Topic Area: WP Essentials

Developing Windows Phone Data Applications with MVVM – Part 1 & 2 CODE

Jose Luis Latorre

In this class, you will see how to properly develop a database-driven Windows Phone application using some of the market's best practices and patterns, including MVVM, Repository and other very useful patterns that go especially well, all while using the most standard and widely used frameworks, like MVVM Light.

The session will be mostly practical with a crystal-clear theoretical introduction to each pattern before developing it, and then going into each implementation one by one in a layered way, putting in a solid root (pattern explanation), and then explaining step by step the implementation.

You will develop a Windows Phone application that will generate the database, get data from it, and present it through different views, allowing the user to navigate properly (with the nonlinear

navigation service), and learn how to interact with the different entities through the commanding pattern.

At the end, you will clean up the navigation code in the code behind the views implementing a navigation service. You will end up with a Windows Phone application that will be coded in a completely pure MVVM style and developed with the most efficient patterns today. Also, I will clearly explain the obvious benefits of doing it this way and what problems will this solve.

This is a two-part, 150-minute class.

Level: Advanced Topic Area: WP Enterprise, WP Essentials

Forget Code-Behind – Templates, Behaviors and More! CODE

Chris Nicol

All too often, WP developers have to use code-behind to solve problems that they can't accomplish in either their Views (XAML) or ViewModels. In this session, we look at a number of approaches that you can add to your repertoire as a WP developer. We'll review the power of custom controls, behaviors, templates and more. We'll also cover an exciting way to control storyboards and navigation from your ViewModels. List of Topics:

- Custom Controls
- Templates
- Making the Most of Styles and Inheritance
- Attached Properties vs. Attached Behaviors
- Leveraging Attached Behaviors
- VisualStateManager
- Managing Navigation in a WP MVVM application
- Managing Storyboards in a WP MVVM application

Level: Advanced Topic Area: WP Essentials

Handle Tombstoning and Fast Application Switching CODE

Matt Lacey

In many ways, tombstoning and fast application switching are an inconvenience. It would be great if we didn't have to worry about them, but we do. They are a necessity of the platform's design, and are there as part of the platform's attempts to provide a stable, reliable and predictable experience for the user. The way we handle tombstoning and fast app switching in our apps can greatly impact the user's experience and what the user thinks of our apps. As we want to create applications that the users will love, handling tombstoning and fast app switching is, well, essential.

This session will provide a complete guide to handling tombstoning and fast app switching within your apps. This will cover everything from the basics to details and examples of how to handle common controls, view models and a few advanced scenarios. We'll also look at common mistakes, misunderstandings and gotchas. All this will leave you with a complete understanding of how to ensure your apps can correctly and simply handle tombstoning and fast app switching, enabling you to provide the best experience to the users of your apps.

Level: Advanced Topic Area: WP Essentials

The Joy of Push CODE

Sean McKibben

In this session, learn the power of push. The class begins by reviewing trends in the mobile app explosion. Through examples and hard data, you will see why push notifications are an ideal way to engage mobile users. You will then play with LiveTiles in a variety of ways to understand the ways to power push on Windows Phones. This portion of the class includes reviewing a variety of LiveTile solutions, exploring what the tiles are, what they do and what limitations exist when using them. After a dive into concepts and intricacies specific to the MPNS push notification mechanisms, the class concludes with a review of the unusual potential of what can be conveyed through a simple live tile.

Level: Advanced Topic Area: WP Essentials

Light Up Your App with Windows Azure CODE

Josh Twist

Engaging Windows Phone applications do better, and really engaging apps need back-end services. This session will introduce you to Windows Azure and demonstrate how you can add connected experiences to your Windows Phone apps with back-end services built on Windows Azure.

After walking through the fundamentals, we'll take a deep dive and demonstrate how you can use Windows Azure to leverage authentication, structured storage, geolocation, multimedia, data and push notifications to make your application really sing.

After attending the session, you will be empowered to take your applications to the next level with powerful and scalable back-end services.

Level: Advanced Topic Area: WP Essentials

Master Movement – The Art of Using Animation CODE

Walt Ritscher

From the moment you turn on a Windows Phone device you are showered with animations. The home screen tiles wiggle and bounce. When you look at your people hub, you see elegant transitions as you move from screen to screen. But take a look in the marketplace at your competitors applications. Many of them are lackluster HTML clones of iPhone apps, static and dull.

You should consider adding some artful animation to your next application to make it a joyful, fun experience. If done right, animating parts of your UI can have a powerful influence on the user experience. We fortunately have a robust animation engine available in

Silverlight, and this session shows you how to use it in interesting ways.

You'll start the session by examining animations, storyboards and keyframes. Once you are comfortable with these key topics, you'll learn the Expression Blend animation tools and then start exploring concepts like frame-based animation, creating custom animation types, and physics simulations.

Level: Advanced Topic Area: WP Essentials

Move Your WP7 App to Windows 8 Metro CODE

John Waters

In this session, you will learn how to move your XAML-based Windows Phone application to the new Windows 8 Metro platform. In particular, we will examine the steps needed to go through to move the WPDevCon conference application, EventBoard, to a new Windows 8 Metro app. Attendees will be able to compare the app they have on their phones with what it looks like running on a Windows 8 tablet. The technical differences, similarities and tips and tricks for the process will also be discussed.

We will explore the Metro version further and showcase some of the unique capabilities, such as semantic zoom and charms (a.k.a the search contract), and explore some of the built-in WinRT controls like GridView and JumpView. For anyone curious about how the current Windows Phone platform fits with Windows 8, this will be a session packed full of useful tips and code!

Level: Advanced Topic Area: WP Essentials

Multi-Player, Turn-Based Games Using Windows Phone 7 Push Notifications CODE

Michael Cummings

In today's mobile market, social games can gain popularity with extraordinary speed. For a mobile social game, it's important that the game provides immediate feedback to the user on progress within the game by other players. A large part of the social game is the ability to recruit other players to a cause and assist in achieving goals. These are just a few examples of how important having a communication channel that your game can leverage to allow players to interact really is.

All the current mobile platforms provide several ways to allow your games to communicate with other players. This session will explore how to use the Push Notification Services of the Windows Phone platform to send and receive messages. Attendees will learn how to use push notifications to transfer play to the next player and synchronize play between multiple players.

Next, attendees will learn how to leverage push notifications to ask other players for assistance or to taunt about achievements made within the game. Finally, attendees will learn how to modify their games' Live Tile based on information received from a Push Notification.

Level: Advanced Topic Area: WP Essentials

Prism, Caliburn Micro, MVVM Light – Best Frameworks for Windows Phone CODE

Elad Shaham

Mobile apps can sometimes be as simple as creating a home page, throwing in an app bar and adding a nice background. As the app we're creating gets more complicated, we begin to examine frameworks that will not only create some order in our code, but also make our code much more maintainable.

In this session, we will introduce the more significant client-side frameworks for Windows Phone, and discuss the pros and cons of using each one of them. At first we will focus on Prism, perhaps the most important UI framework in the XAML world. We will show how Prism, a framework created by Microsoft's Patterns and Practices team, is fully supported under Windows Phone. Later, we will show the very mature Caliburn Micro framework vs. the light but reliable MVVM Light solution. We'll sum up by comparing all three frameworks, side by side, so you'll know which one to pick for your needs.

Level: Advanced
Topic Area: WP Essentials

Shape and Configure an OData Feed for High-Performing Windows Phone Applications CODE

Chris Woodruff

You have all sat through the simple WCF Data Service introductory sessions multiple times, and they are valuable, but it is time to learn how to really leverage that WCF knowledge and learn how to build and produce valuable OData feeds that will allow your applications usability to sizzle. At the same time, you will learn how OData is built for high performance and security.

This class will teach and give deep knowledge into the configuration and extensibility of the WCF Data Service/OData feed. It will also teach developers to secure their feeds through multiple user authentications such as OAuth, Windows and Forms Authentication.

Level: Advanced Topic Area: WP Essentials

Social Games on Windows Phone 7 and the Web Using Microsoft Azure CODE

Michael Cummings

In today's mobile market, social games can gain popularity with extraordinary speed. For a mobile social game, it's important that the game provides mechanisms for players to interact with other players. Some social games, like many on Facebook, allow players to recruit other players to their cause and assist them in achieving your goals. Other games have more real-time interaction with players. A consistent theme for social games is the more players can play the game, the better, so being able to target multiple platforms with a minimal amount of rework is extremely important.

This session will walk attendees through creating a simple social

game. The basic framework will rely heavily on a website deployed onto Microsoft's Azure Platform, using ASP.NET MVC, HTML5 and CSS3. By using the Social Games for Azure Toolkit, additional game mechanics like authentication, leaderboards, friends, invites and notifications will be added. Attendees will also be shown how to adapt their games to mobile devices so that players can participate in the game no matter where they are.
Level: Advanced Topic Area: WP Essentials

Use Async and Await on Windows Phone CODE

Matt Lacey

Having great perceived performance is crucial to producing a good app. One of the ways we have of improving the perception of performance and providing a responsive user interface is to perform tasks asynchronously. This is nothing new. As mobile developers, we know and have come to accept this. We implement continuations and pass around "callback" methods and functions. This works and you can do it this way.

But there is a better way.

The "async" and "await" keywords (coming in the next versions of C# and VB.Net, but are currently available as part of the Async CTP) provide an easier way to write asynchronous code. It means we're able to implement the same functionality with much less code and code that is easier to read and debug. If you've ever tried to debug a series of nested callbacks, you'll be in awe of the way this becomes so much easier. Even if you haven't yet had to battle the complexities of complicated asynchronous code, you'll appreciate the simplicity and elegance of what's now possible.

Starting with the assumption that you know nothing about this new functionality, you will get you up to speed quickly and learn lots of tips, suggestions and guidance to how to use the more advanced features.

This code-heavy session will leave you wanting to rush back to your existing codebases, delete loads of them and replace them with a much smaller amount that includes those magic new keywords.
Level: Advanced Topic Area: WP Essentials

Unleash the Full Potential of Windows Phone Camera and Imaging APIs CODE

Michael Samarin

In this session, we will build a complete camera application illustrating the usage of as many Camera APIs as possible. Since the Windows Phone Mango release, third-party developers have the opportunity to create advanced imaging apps, incorporating a device's camera capabilities. Now it is possible to not only take and store pictures, but it's also possible to control parameters of image and video recording, make unique camera controls specific to your application, and implement complex, real-time image processing of live camera streams.

There are many common camera tasks, which you may have to take care of, and we will discuss and illustrate different strategies for your consideration:

- Querying and understanding capabilities of camera module available on device
- Integrating viewfinder capabilities, building custom camera controls
- Real-time processing and analyzing of raw camera stream
- Understanding performance optimization on Windows Phone when building image filters
- Different ways of storing media data and App Connect utilization

This is a hands-on session, and developers are encouraged to bring their own Windows Phone devices and laptops with an installed development environment. We are going to use Nokia Lumia devices during this session.
Level: Advanced Topic Area: WP Essentials

Windows Phone + SignalR = Awesome Possibilities! CODE

Sam Basu

Built from the ground up, Windows Phone brings together what you care about most, and brings it to you in an innovative and simple Metro UI interface. You and your content are at the center of it all through the Start screen experience with Live Tiles and integrated Hubs, which provide rich and continuous user experience. SignalR, on the other hand, is a very cool piece of technology that provides the async signaling library to build real-time, multi-user interactive applications that connect disparate systems.

What do you get when we combine the personalization of Windows Phone and the adaptability of SignalR? We get instant, real-time communication between phone and back-end server. We get location service applications. Chat. Stocks. Alerts. Endless possibilities! Come join this class to explore some of these new opportunities through demos and code samples.
Level: Advanced Topic Area: WP Essentials

Windows Phone App Localization for a One-World Marketplace CODE

Brendan Clavin

Localization is an essential app development process in order to reach as large of a market as possible in a one-world market. If mobile devices can reach people worldwide, your apps should, too. High-quality localization should not be the privilege of large corporations, but should be within the affordable reach of everyone no matter what the scale of their operation.

This session will show developers where the opportunities exist to increase sales through localization. It will allow them to determine if their app is suitable for their target market. It will demonstrate the potential increase in sales and download over and above their current English-only markets. Finally, attendees will learn about the localization process and the expected return on investment relative to the cost of localizing an app.

The technical portion of the talk will dive into the mechanics of preparing an app for localization. We'll take a sample app and externalize all the localizable content for translation. All localizable content will be organized appropriately within the project. A demonstration of pseudo-localization will be given. Pseudo-localization is a process that helps app developers test the localizability of the app before engaging with translators. An overview of how to properly handle date and time formats in the app will also be discussed. A demonstration of switching locales on a phone and how the user interface of the device (and the app) will change to the appropriate language will also be demonstrated.

The goal of this talk is to demystify the entire localization process, giving developers a deep understanding of what it takes to get their apps into the hands of the non-English speaking consumers of the world, and how to increase sales and downloads in the process.

Level: Advanced **Topic Area: WP Essentials, WP Marketing**

Windows Phone XNA Graphics and Sensor Integration CODE

Bary Nusz

This advanced session will teach attendees the details of how to generate XNA graphics and to integrate those graphics with the phone's sensors. We'll start with the basics of generating a simple XNA graphic and work our way up to complex objects with numerous examples. We'll then go over initializing the compass, accelerometer and camera sensors, and utilizing their data. This will include sensor limitations and orientation details.

Finally, we'll cover how to integrate the graphics and sensor data into a seamless application that can be the basis for any alternative-reality application. Attendees will need experience with .NET and C#. Some 3D graphics knowledge, such as OpenGL, DirectX or XNA, would be recommended. This session will cover C# and 3D matrix manipulation. All of the example applications and slides will be made available to attendees beforehand so that they can follow along during the session.

Level: Advanced **Topic Area: WP Essentials**

XAML User Interfaces for Your Windows Phone 7 XNA Games CODE

Michael Cummings

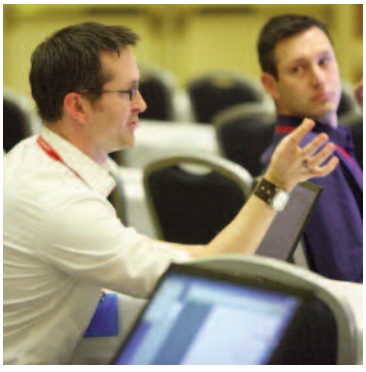
In today's game market, social games can gain popularity with extraordinary speed. Every game today has a need for some user interface, whether it's just a simple menu to get you into the game quickly, or an in-game HUD-type display. Many times, the UI is developed specifically to handle a game's needs by rewriting a lot of foundational framework type code.

For games developed using Windows Phone XNA for Windows Phone 7.1 (Mango), there are now two viable options for creating UIs without having to rewrite a lot of UI Framework code. Microsoft has provided an XAML control to display an XNA game on a page, and an XNA renderer for XAML, allowing you to display XAML controls as a HUD-type display.

The class will cover both methods of leveraging XAML for your UI, using a concrete game as an example. The first part of the session will cover using an XAML UI with the XAML Game Page to display your XNA game. Common mistakes and pitfalls will be discussed, as well as solutions and workarounds.

The second half of the session will cover creating in-game controls using XAML. Attendees will learn how to initialize the renderer and render XAML controls over their XNA game. Limitations in this method will be discussed with ways to prevent developers from making common mistakes.

Level: Advanced **Topic Area: WP Essentials**



Faculty

Learn from Windows Phone Gurus – including Microsoft MVPs!

WP DevCon
The Windows Phone Developer Conference

Lincoln Anderson

Lincoln has worked with clients, including American Express, Porsche and, most notably, Microsoft. Lincoln was one of the first developers to work with Silverlight (then codenamed WPF/e) as an invited guest to Microsoft's artist-in-residence program in Redmond, WA. He has since designed the UX for several prominent Windows Phone 7 and WPF projects, including the "T-Shirt Cannon" app for MIX '10, the "Kinect Recliner" for MIX '11, and Microsoft's "Project Detroit" smart car. Lincoln is also recognized as a UX wizard and contributing author on the Coding4Fun team on Microsoft's Channel9.

As a pioneer in Metro design, Lincoln has a direct line to Microsoft's internal development team. As such, he is among the foremost experts on Metro principles.

Sam Basu

Samidip is a technologist and gadget-lover working as a Manager and Solutions Lead for Sogeti out of the Columbus, OH Unit. With a strong developer background, he now spends much of his time in spreading the word to discover the full potential of the Windows Phone platform and cloud-based mobile solutions in general. He passionately runs the Central Ohio Windows Phone User Group, labors in M3 Conf organization, and can be found with at least a couple of hobbyist projects at any time. His spare time calls for travel and culinary adventures with the wife. Find out more at www.samidipbasu.com.

Darrin Bishop

Darrin is a founder and director at Aptillon, Inc. He has been awarded SharePoint MVP for seven years and has been involved in SharePoint since 2001 when the codenamed product Tahoe was released as SharePoint Portal Server 2001. Darrin has a diverse background in SharePoint and has covered the product life cycle from envisioning, design, installation, development, customizations and even administering farms.

Recently, Darrin has been working with the Windows Phone 7 platform and Azure. He has been focusing on the integration of the platforms with SharePoint 2010. You can commonly find Darrin speaking at user groups and conferences. You can read Darrin's blog posts at blog.aptillon.com/category/darrin-bishop.

Brendan Clavin

Having worked in the software industry for over 20 years, Brendan is a leading expert in the area of internationalization and localization. He is the CTO at Tethras Technology Limited, a cloud-based localization service for app developers.

In 2005, Brendan was the first person hired into Google's Internationalization Engineering team. While there, he built out the team and was responsible for the infrastructure at Google that is used to create and deliver all of Google's products in up to 100 languages.

He has played key roles in a number of high profile companies, including Ariba where he built the localization department; and Iona Software and Adobe Systems where he was involved in creating infrastructure and tools that facilitate the delivery of products and services to non-English speaking people around the world. He started his career working for Claris Corporation.

Michael Cummings

Michael has nearly 20 years of experience as a systems analyst and software developer, and is a Microsoft MVP in XNA/DirectX. He is an experienced technical lead with strengths in systems architecture, software development, infrastructure design and deployment, and business process as it relates to technology.

Michael holds multiple certifications from Microsoft and other certifying organizations, including MCP, MCT, MCSD, MCSE and MCDBA. In addition to working with many different technologies, Michael has also taught hundreds of Microsoft Certified Courses as a Microsoft Certified Trainer. Michael is dedicated to the community and speaks at user groups, code camps and conferences.

Sebastian Holst

Sebastian is CMO at PreEmptive Solutions, the producers of the analytics technology embedded inside Visual Studio. His role there includes product strategy and product management. Sebastian has also personally developed and published a number of popular mobile apps that run on WP7, Android and iOS. With experience across platforms and marketplaces, he brings a unique perspective to the process and business of developing mobile applications.

For fun, Sebastian is working with local high schools to launch an independent study curriculum to jumpstart mobile app development in Northeast Ohio. Active in computing and industry standards bodies, Sebastian sits on the MMA Mobile Analytics and Privacy subcommittees, and was an active member of the W3C Advisory Committee during the development of many of today's Web recommendations.

Matt Lacey

Matt is a freelance Windows Phone developer who has been developing for various mobile devices for over nine years, and on the desktop for a few years before that. He has worked on over 24 apps in the marketplace, including 10 apps for "showcase partners." Before freelancing, Matt worked at organizations varying from a seven-person startup to a multinational consultancy with tens of thousands of employees. He has primarily worked as a senior developer (where he used more languages and platforms than he can remember), but has also worked in support, technical pre-sales and staff training.

Matt organizes the Windows Phone User Group in England and has spoken at numerous user groups all over the UK. He is the author of the highly popular Tombstone Helper library, and if you've asked a question about Windows Phone 7 on StackOverflow, he probably answered it.

Faculty

Registering 3 or more?
See last page for group discounts!

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Nick Landry

Nick is a Senior Product Manager for Infragistics, a provider of user interface development tools that empower developers to build and style immersive user experiences and rich data visualization in line-of-business applications across all .NET platforms, the Web and mobile devices.

Nick is at the helm of Infragistics' mobile, data visualization and mapping developer tools across multiple technologies and platforms. He previously spent 16 years of his career in IT consulting and services organizations across various technical and business roles, designing, building, managing and selling innovative software solutions for some of the world's top brands and Fortune 500 companies.

Known for his dynamic and engaging style, he is a frequent speaker at major software development conferences worldwide like TechEd, DevConnections, DevTeach and others, and is an eight-year Microsoft MVP awarded on Windows Phone Development. With 20 years of professional experience, Nick is a developer and software architect by trade and specializes in Enterprise Mobility, Location Intelligence and Mapping, Touch Computing and NUI, and Game Development with XNA.

Jose Luis Latorre

Jose Luis is a Microsoft Silverlight MVP, Toastmaster's Competent Communicator, TechEd Speaker, INETA Speaker, STEP member, and technical writer and reviewer. He is also a trainer with two years of experience in Windows Phone and Silverlight and is deeply involved with the technical communities through his collaboration with INETA Europe, Barcelona Developers and Devitug UK user groups.

Jose is strongly focused on XAML technologies like Silverlight, WP7 and WPF. He has written several articles on these topics, reviewed a book, and done several talks over the last years in both Spanish and English. He is also committed to becoming a competent communicator through the Toastmasters program, and has recently successfully finished the competent communicator program.

Michael Lehman

Michael is a developer, hardware engineer and social media pioneer. His career has spanned and often shaped the past 40 years of advanced computer technology innovation. His myriad of inventions include the first hardware implementation of the UCSD P-machine, one of the first Integrated Development Environments (compiler + editor), the first direct-to-binary Pascal compiler for PCs, the best-selling spreadsheets for Mac (Microsoft Works) and Amiga (MaxiPlan), the Microsoft Blueprints/Feature Builder Power Tools, and most recently mobile apps for iOS and Windows Phone.

Utilizing the breadth and depth of his pioneering work in the software industry, Michael is continuously helping developers stay up to date through his seminal work as one of the first 12 podcasters worldwide (Mike's Manic Minute) to sharing his accessible expertise as a Technical Evangelist and public speaker. He has also authored numerous articles and books, including "25 ThingZ iPhone developers need to know about the iPad," "Making Songwriting Demos Easier," and a forthcoming online course for Windows Phone developers.

Chris Love

Chris has nearly 20 years (yes, that's right) of Web development experience, and has built a wide variety of websites and applications in those years. In the past few he has begun to immerse himself in the mobile Web application space, giving him some amazing experiences using cloud technologies, HTML5 and all the major mobile platforms.

Currently, Chris is focusing on solving the problems many enterprises are having, adopting a winning mobility strategy as Tellago's Chief Mobility Officer. He has authored two books, is working on a new Mobile Web App book, and is a five-time ASP.NET MVP. Chris regularly speaks at user groups, code camps and other developer events.

Jim McKeeth

Jim is a veteran software developer, community activist, podcaster, blogger and conference presenter with 20 years of experience. He is developer evangelist for RemObjects Software where he travels the globe teaching and inspiring developers to achieve new levels of success in their development efforts. Jim's belief that training should be fun and informative is evident by his creative style.

Jim presents at conferences all across North America and Europe. In addition to traditional conference sessions, he also trains full-day and multiday workshops. Currently he is planning a tour across the United States with his family so he can visit as many software developer groups as possible.

Sean McKibben

Sean is a native and resident of Colorado, and loves working in the the tech startup environment that is flourishing around the Denver/Boulder area. Sean's day job is VP of Engineering for Push IO LLC, and he has been working in the interactive industry for over 18 years. One of Sean's biggest passions is integrating technology seamlessly into people's lives to facilitate their ability to communicate and interact with each other. He studied graphic design and computer science, and mixes the two into interdisciplinary concoctions on a regular basis.

Colin Melia

Colin is a Microsoft Regional Director and Microsoft MVP for Silverlight. He is known as an architect, trainer, speaker and author with deep and broad knowledge of the latest Microsoft technologies. He has proven problem-solving skills, hands-on solution creation ingenuity and the ability to communicate rich and complex ideas.

He speaks regularly with his British accent at conferences, events and code camps for Microsoft and community organizations, as well as being a college academic advisor. In the summer of 2010, he developed and delivered the first Windows Phone 7 boot camp tour in North America, training dozens of developers and companies across Canada at Microsoft offices.

Colin has 17 years of hands-on experience in areas of rich UI with WPF/Silverlight, cloud development with Azure and BI with SQL Server, along with in-depth knowledge of core technologies such as .NET, OData, WCF, WF, LINQ and WIF. He has developed award-winning simulation technology with rich UI, cloud-based learning portals and workflow-driven BI systems. He also created the first streaming video community site with Windows Media.

Alan Mendelevich

Alan has been developing software for a living for more than 15 years. He has been an active participant of the Windows Phone community since its inception, and has delivered talks on Windows Phone development, marketing and monetization at multiple events in Europe.

In early 2011, Alan launched AdDuplex, an ad exchange network for Windows Phone applications. AdDuplex is helping developers promote their apps for free by helping each other. Via his involvement with AdDuplex and the Windows Phone community in general, Alan was able to collect and analyze valuable information and insight about promotion and monetization techniques used by developers. He is happy to share the insight back with the community on his blogs at devblog.ailon.org and blog.adduplex.com, and talks on the subjects of Windows Phone development, app marketing and monetization.

Eric Neff

Eric is an experienced technical architect who offers over 14 years of overall experience in as a technical architect and senior software developer. He is an expert in full life-cycle application development, middleware, and n-tier application development, with specific expertise in Microsoft .NET application development. Eric specializes in object-oriented analysis and design in systems development with a focus on the scheduling of service personal of manufactured items, and was instrumental in the design and implementation of data relation schemas for the lexicography industry.

Eric was recently promoted to the Director of Mobile Innovations at Kiefer Consulting Inc. This puts into practice several years of hobbyist development Eric has done in the mobile space on iPhone, Android and Windows Mobile. Eric is active in the local development community through his participation in the Sacramento Google Technology Group and as a board member of the Sacramento Dot Net User Group. He has given presentations on Mobile Web Technologies, Mobile Development and ASP.NET Techniques.

Eric has presented Mobile Design Patterns at the 2012 Government Mobility Conference, using Query in Visual Web Parts at The SharePoint Exchange, 3 Ways to Mobile at the Sacramento Dot Net User Group and Northern Nevada Computer User Group.

Chris Nicol

After 17 years in Ireland, Chris moved to Alberta, Canada. He attended Red Deer College taking CST before taking a private course specifically on .NET in Edmonton. Even in his early days as a programmer, Chris had a focus on UI development and User Experience while working on some high-profile applications, including Pizza Hut Hawaii's online ordering site.

After moving to contracting, he started focusing more on XAML development, both in Silverlight and WPF. In October of 2009, Chris moved with his family out to Vancouver, BC to take a position at iQmetrix as a UI/UX Architect where he now manages a design team that creates great experiences every day. Outside of making great user experiences, Chris is a huge Vancouver Whitecaps fan and makes the most of living in one of the most amazing cities in the world.

Bary Nusz

Bary's career has taken him from the oil field services industry, to LCD research, the DOE, and now Falafel Software as a Software Architect. He's served as a lead researcher, designer, and programmer on numerous systems that encompassed a wide range of technologies such as ultrasonics, eddy current, and down-hole viscosity measurements - all along the way using the latest software technologies to solve complex control and data imaging challenges.

He's given numerous talks at the Silicon Valley Code Camp and has been a technical editor on several software books. With numerous patents and engineering/scientific achievement awards, he finds no challenge too hard to handle. During the spring, he spends time chasing down severe storms, and in the summer spends time at the lake with his family. He also enjoys competing as an epee fencer along with his son and daughter. Bary has a BS in Electrical Engineering from Texas Tech University.

Faculty

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Walt Ritscher

Walt's enthusiasm for crafting software interfaces blossomed early. Just a few days after discovering how to make pixels move around the screen of a borrowed computer, he was devouring books on the topic of computer graphics and UI design. Now he travels the world speaking at software conferences and teaching a diverse portfolio of programming topics for corporate clients.

On the consulting side, he continues to work with customers like Microsoft, HP, Intel and Intuit, and he enjoys being part of the Wintellect consultant group. He writes for several publications, including CODE Magazine. His current UI obsession revolves around the Windows 8 Metro, Silverlight, Windows Phone, and WPF APIs. His blog can be found at blog.wpfwonderland.com. Walt is also a Microsoft MVP and the author of "HLSL and Pixel Shaders for XAML Developers" and the free Shazzam WPF Shader utility.

Michael Samarin

Michael has been developing software professionally since 1994, and has had a Ph.D in Computer Science since 1997. His portfolio includes projects in areas ranging from military forensic investigations, neural networks and video surveillance to interactive media showrooms, projection systems and mobile applications. Michael is currently leading developer training in a multi-platform mobile development team at software and project house Futurice Ltd., the fastest growing Finnish technology company of 2008 and Best Place to Work in Finland 2012.

Michael holds titles of Nokia Champion and Nokia Certified Trainer. He is frequent speaker at technology events such as Oredev, Nokia World, Qt DevDays, JavaOne, MS TechDays and others.

Elad Shaham

Elad is a senior consultant and instructor at Sela Group. He has over 10 years of experience in client-side development and architecture for client Microsoft technologies, which include WPF, Silverlight, Windows Phone and the new Windows 8 Metro Style Apps.

In the past year, Elad has helped create Windows Phone training materials for Microsoft, and has been delivering lectures about Windows Phone to students in several Universities and Colleges in Israel. He is also leading the Windows Devices User Group, which is supported by Microsoft Israel.

Lino Tadros

Alain "Lino" is chairman and CEO of Falafel Software, a Silicon Valley-based company dedicated to providing world-class consulting, training and custom software development to small, medium and enterprise-level businesses. Prior to founding Falafel, Lino was a member of the development team at Borland for Delphi and C++Builder. In 2003, Lino was awarded "Trainer of the Year" by Borland, and continues to share his expertise as a regular speaker at tech events worldwide.

Lino's speaking engagements include the Microsoft Windows Phone 7 Developer Launch Event in Mountain View, Silicon Valley Code Camp, DevReach Bulgaria, and the keynote at ITCamp Romania. His topics range from mobile to Web, but his expertise in Microsoft C# and .NET-based technologies has won him Microsoft MVP status nine years in a row.

Carlo Toribio

Carlo began programming in C++ in college in the early 2000s, then moved to C#, utilizing Windows Forms and ASP.NET technologies. He has four years of professional development experience with technologies such as WPF, Silverlight, Windows Phone 7, ASP.NET and iOS. The majority of his career has been spent in the Microsoft technologies and Visual Studio, but recently he has been transitioning to iPhone and iPad development.

In Carlo's current role as a Software Engineer for Odyssey Computing, he has been developing WPF, Silverlight and Windows Phone 7 applications and mentoring his peers in such technologies. Over the past four years, he has spoken at several conferences at the University of Baja California in Mexico, addressing students majoring in Computer Information Systems to discuss important topics in the field of software development.

Josh Twist

Microsoft SPEAKER

Josh is a Senior Program Manager with Microsoft working as part of the Windows Azure team. His focus is enabling mobile developers to easily add back-end capabilities to their applications.

Josh is originally from the UK where he worked for Microsoft as a consultant and was awarded the title of Systems Developer of the year 2009 by the British Computer Society and Computing magazine.

Josh has a passion for teaching and is an experienced presenter, speaking for Microsoft at numerous events, including the flagship //BUILD/ event in 2011.

John Waters

John, President and CTO of Falafel Software, has a long history of technology leadership. Prior to joining Falafel Software, John ran his own consulting company in Sweden for nearly a decade. Falafel Software lured him away in 2003, and his experience and leadership has been essential to the growth of the company.

He has served as the lead architect and project manager on a number of high-profile software products and custom Web and mobile solutions. His expert status on Windows Azure cloud computing and mobile development has allowed him to speak at many recent events, including the Microsoft Windows Phone 7 Developer Launch Event in Mountain View, Microsoft TechDays Switzerland, Silicon Valley Code Camp and DevTeach. These same technical skills have been critical to the success of Falafel Software's mobile conference application, EventBoard.

Kelly White

Kelly is a Windows Phone Development MVP and the president of Silvertail Software Inc. He has over 12 years of industry experience building Web applications, and has a passion for startups and ideas that can change the world. Kelly is on the organizing boards for both the Portland Startup Weekend and the Oregon Game Project Challenge. He has also been a regular guest on the Sparkling Client podcast.

Kelly founded and previously ran the Portland Silverlight and Windows Phone user groups, which during its heyday included taking a busload of 40 user group members to Microsoft for the Silverlight 5 announcement. He also helps organize and present at Windows Phone Unleashed events in Oregon, Washington and Idaho. Kelly speaks regularly at User Groups and Code Camps throughout the Pacific Northwest on Silverlight and Windows Phone Development.

Shawn Wildermuth

Shawn is a nine-time Microsoft MVP (Data), member of the INETA Speaker's Bureau, and author of seven books and dozens of articles on software development. He is involved with Microsoft as a Silverlight Insider, Data Insider and ASP.NET Insider. Shawn has been seen speaking at a variety of international conferences, including TechEd, Oredev, SDC, VSLive, WinDev, MIX, DevTeach, DevConnections and DevReach. He is one of the Wilder Minds at wilderminds.com, and can also be reached via his blog at wildermuth.com.

Chris G. Williams

Chris is a Principal Consultant and Mobility Practice Lead for Magenic. He is the author of "Professional Windows Phone 7 Game Development" and numerous articles in CODE Magazine. He's also a XNA/DirectX MVP, MCT, MCSD (.NET) Early Adopter, MCAD, freelance game developer, conference speaker, vintage arcade game collector, INETA Community Champion and four-year Board of Directors member, and occasionally plays a pretty mean guitar in Rock Band.

Chris Woodruff

Chris (aka "Woody") has a degree in Computer Science from Michigan State University's College of Engineering. Woody has been developing and architecting software solutions for almost 15 years, and has worked in many different platforms and tools. He is a community leader, helping such events as Day of .NET Ann Arbor, West Michigan Day of .NET and CodeMash. He was also instrumental in bringing the popular Give Camp event to Western Michigan, where technology professionals lend their time and development expertise to assist local non-profits.

As a speaker and podcaster of the popular podcast "Deep Fried Bytes," Woody has spoken and discussed a variety of topics, including database design and open source. He is a Microsoft MVP in Data Platform Development and was recently recognized as one of the top 20 MVPs worldwide.

Woody has also worked in many arenas throughout the years, including healthcare, manufacturing, publishing, promotion execution and the automotive industry. He has experience with starting and running new ventures, including past work with technology startups. Woody continues to develop his expertise by learning and developing new technologies to better meet the needs of his clients, while devoting his free time to improving the development community at large, and giving back to the community in which he lives.

Woody currently works at Perficient Inc. and is the President of the West Michigan .NET User Group. You can find his blog at www.chriswoodruff.com

WP DevCon
The Windows Phone Developer Conference
October 22-24, 2012
Hyatt Regency
Burlingame, CA
www.WPDevCon.com

How to get approval from your boss

to attend WPDevCon, the Windows Phone Developer Conference

1 **STUDY.** Note that the classes and workshops at the Windows Phone Developer Conference are focused on three main areas: essentials, enterprise essentials and marketing. Find the sessions that are best for you.

2 **PREPARE.** Download the course catalog and circle the classes you want to take, and explain why the topics relate to your Windows Phone technical efforts.

3 **CHOOSE.** There are many sessions offered in each time slot. That means that you'll always find something that fits your needs and is at just the right level for your own Windows Phone development and marketing needs.

4 **JUSTIFY.** Go in armed with all the necessary materials to make a good case for how your attending WPDevCon will help your company make money, save money or improve productivity.

5 **EXPLAIN.** Succeeding with Windows Phone is important to your company. You will be rewarded by not waiting around; get going on building and managing mobile apps at WPDevCon.

6 **SHARE.** Promise to come back from WPDevCon and hold a brown-bag lunch session to share what you've learned with your colleagues, or even conduct formal training within your department.

7 **SAVE.** The sooner you register, the more your company saves, so explain the benefit of signing up early, both for the conference and for the hotel.

8 **TEAM.** Save even more with group discounts. Send three or more employees from your company and save $100 per person. Each person can take different classes and bring back even more valuable tips and techniques. (Sending 10 or more? Contact us for special arrangements.)

9 **GROUP.** User groups, government employees, non-profits and professionals employed by or attending educational institutions can also receive special savings.

10 **DECIDE.** While you can sign up anytime, your company will save the most if you beat the Wacky Bird, eXtreme Early Bird, Super Early Bird, Early Bird and Pre-Bird deadlines. Help your company's bottom line by signing up today!

Find and share these tips online at

www.WPDevCon.com/gettingapproval.aspx

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The Windows Phone Developer Conference
October 22-24, 2012
Hyatt Regency
Burlingame, CA
www.WPDevCon.com

Hotel and Travel Information

Special WPDevCon Discounted Rates

Take advantage of special discounted room rates at the Hyatt Regency: only US$177 per night for single/double occupancy.

Rooms for the reduced rate are limited! Use the "Make Hotel Reservation" link on the confirmation page of your registration.

Reservations at the reduced rate can be made through 5:00 PM Eastern on Oct. 9, 2012—assuming they don't sell out. The number of rooms in the discounted block is LIMITED, and historically rooms sell out well before the deadline. Don't wait until the last minute to reserve your hotel rooms!

This rate is available throughout the duration of the WPDevCon conference. Also, if you reserve your room via the registration link, you will receive free wireless Internet service in your room.

www.wpdevcon.com/hotelandtravel.html

Driving Directions:

From San Francisco International Airport (2 miles)
Take 101 South toward San Jose. Exit Millbrae Ave. Turn left on Millbrae Ave. Turn right at the second stoplight onto Bayshore Hwy. Proceed through 4 stoplights. Hotel is on the right-hand side.

From Oakland Airport (approximately 30 miles) and Points East:
Take I-880 South toward San Jose. Merge onto CA-92 W toward San Mateo Br. Merge onto US-101 N toward San Francisco to the Broadway Exit. Take the Airport Blvd ramp toward Bayshore Blvd, then turn left onto Bayshore Hwy to the hotel.

From San Jose Airport (approximately 30 miles) and Points South:
Take 101 North to the Broadway Exit. Take the Airport Blvd ramp toward Bayshore Blvd, then turn left onto Bayshore Hwy to the hotel.

Parking

The Hyatt parking garage makes for easy arrivals and fast departures via self-parking. A full day of parking is $8. The Hyatt does offer valet parking options at $25 per day.

Complimentary Shuttle Service

The shuttle is available every day, 24 hours a day, and runs every 10-15 minutes. Take your luggage to the Departures Level, center island, and look for the area marked "Hotel Shuttle." The shuttle is a large bus marked "Hyatt Regency and Marriott." For arrivals from Midnight-4:46 AM, shuttles pick up every 30 minutes.

San Francisco Bay Area

Hyatt Regency
1333 Bayshore Highway
Burlingame, California,
USA 94010
Phone: +1-650-347-1234
Fax: +1-650-696-2669
www.sanfranciscoairport.hyatt.com

Hotel Highlights

The Hyatt Regency San Francisco Airport is a newly-updated hotel located on San Francisco Bay—between the excitement of downtown San Francisco and the Silicon Valley technology corridor.

Only $177 per night!

Registration & Pricing

WP DevCon
The Windows Phone Developer Conference

Register TODAY at www.WPDevCon.com!

Register By:	June 22	July 27	Aug. 31	Oct. 5	After Oct 5
3-Day Passport October 22, 23, 24	$1,045 SAVE $450	$1,095 SAVE $400	$1,145 SAVE $350	$1,245 SAVE $250	$1,495
Exhibit Hall Only October 23, 24	FREE	FREE	FREE	FREE	$50

All prices are in US$.

3-Day Passport Registration Includes:

- Admission to sessions and technical classes on Oct. 22-24
- Admission to keynotes
- Admission to Exhibit Hall
- Admission to all special events, including the Networking Reception
- Downloadable conference materials
- Continental breakfast, coffee breaks, and lunch where indicated

Exhibit Hall Only Registration includes:

- Admission to Exhibit Hall
- Admission to Networking Reception, Oct. 23

How to Register

Register online and use one of the following payment methods:

Credit Card. You can use the secure online form to pay via credit card and get immediate confirmation of your registration. MasterCard, Visa and American Express are accepted. You'll receive a registration record and receipt. Please print out these pages and bring them with you to the Conference. Present them at the Registration Desk to pick up your badge and course materials.

Check. Fill out the online registration form. Print out the registration record and receipt and mail to BZ Media LLC, 7 High Street, Suite 407, Huntington, NY 11743, with your payment. Online registrations that are mailed without payment will not be confirmed until payment is received.

Purchase Order. If you register using a P.O., you'll be invoiced immediately for the registration amount. Payment must be received before your registration can be confirmed.

CANCELLATION AND REFUND POLICY

You can receive a full refund, less a $150 registration fee, for cancellations made by Friday, September 14, 2012. Cancellations after this date are non-refundable. Send your cancellation in writing to registration@bzmedia.com.

Registrations may be transferred to another person. Refunds will be processed through the same method of payment as the initial payment transaction. Credit card refunds will be processed to the same credit card as the original payment.

If for reasons beyond our control the conference cannot take place as scheduled, BZ Media reserves the right to reschedule the conference to a date and place of its choosing.

QUESTIONS

Contact Stacy Burris, Director of Events at sburris@bzmedia.com or +1-631-421-4158 x108.

SPECIAL DISCOUNTS

You may combine one of these special discounts with the Early Registration pricing to save even more!

Group. Get an additional $100 off per person if you register three or more people from one company for the 3-Day Passport. Use the 'Add another person' option during the online registration process. Note: To receive the Group Discount all group members need to be registered at the same time. If you should need additional assistance regarding group registration, or are registering 10 or more, please contact Stacy Burris at sburris@bzmedia.com.

Educational Institutions. Personnel employed by or attending educational institutions can get a $100 discount off the 3-Day Passport price by using the code **EDU**.

Government. Federal, State and Local Government employees can receive an additional $100 off the 3-Day Passport price. Enter code **GOV** in discount code field. CCR registered indicates that BZ Media is listed in the primary supplier database for the Federal Government.

CENTRAL CONTRACTOR REGISTRATION

User Groups. Contact Whitney Grekin, wgrekin@bzmedia.com, to see if your group is eligible for a discount.

Non-Profit Organizations. Personnel employed by non-profit organizations can get a $100 discount off the 3-Day Passport price by using the code **NONPROFIT**.

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